

## **9. APPENDIX: CONTRACT REQUIREMENTS**

Table 43 lists the contract recitals:

- A study is required to assess the economic costs and benefits associated with various thermal performance and comfort-related building solutions tested in climate zones representative of Australia's major housing construction activity.
- This study is part of the Australian Building Codes Board's (ABCB) Energy Efficiency Project, established by a Memorandum of Understanding between the ABCB and AGO. The study is to be conducted by the Consultant under this Agreement administered by AGO on behalf of the Steering Committee for the Energy Efficiency Project.
- The study is to provide guidance to all stakeholders on options for acceptable construction practices to achieve cost effective measures for energy efficiency for inclusion in Volume 2 for Class 1 Buildings, the Housing Provisions of the Building Code of Australia.
- The target audience for the study is the Commonwealth Government, State, Territory and Local Governments, ABCB, the building industry through appropriate industry consultative mechanisms, and the Australian community.
- The results of the study will be available to the public as a joint publication of the Australian Building Codes Board and the AGO.
- The Steering Committee for the Energy Efficiency Project has appointed a Study Committee to oversee the technical aspects of the Cost-benefit Study.

**Table 43: Contract Recitals**

## 10. APPENDIX: INTERNATIONAL COMPARISON

To ensure that all relevant alternatives had been considered in the modelling, the thermal efficiency requirements of a tropical and a temperate climate were examined. For the tropical climate Hawaii was used, and New Zealand for the temperate climate.

### 10.1 Hawaiian Residential Requirements

Figure 43 provides an illustrated summary of the current requirements in the State of Hawaii<sup>xxii</sup>. The residential requirements address:

- ceiling heat gain;
- natural ventilation; and
- water heating.

When the home is air conditioned, special requirements for air conditioned buildings apply to:

- equipment efficiency;
- wall insulation or shading;
- window tinting or shading; and
- air leakage.

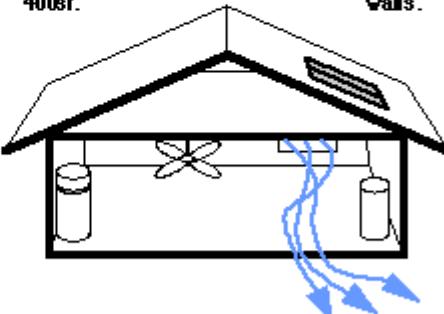
<b>Summary of Residential Requirements</b>		
<p><b>AIR-CONDITIONED BUILDINGS ONLY:</b></p> <p>SEER must be greater than 10.0 for split systems and 9.7 for packaged systems.</p> <p>Ducts in unconditioned space must be insulated.</p> <p>Windows must be shaded or tinted. More shading required with larger areas.</p> <p>Doors and windows must be tight fitting.</p> <p>Walls must be insulated or shaded.</p> <p>Skylight size limit.</p>	<p><b>CEILING:</b> Ceiling insulation -OR- Light colored roof and radiant barrier</p> <p><b>NATURAL VENTILATION:</b> Wiring for ceiling fans in each habitable room. Minimum one for each 400sf.</p> <p>-OR-</p> <p>Cross ventilation on opposite or adjacent walls or on either side of wing walls.</p> 	<p><b>WATER HEATING:</b> Low Flow Devices, Pipe Insulation, Temperature Control</p>

Figure 43: Hawaii - Summary of Residential Requirements

- **Ceiling Heat Gain:** Ceiling constructions must either be insulated or alternatively may use a radiant barrier in combination with a light-coloured roof. The actual criteria are expressed as a maximum roof heat gain factor (RHGF). The RHGF equation (Equation 13) takes account of insulation levels (U-value  $U_r$ ), colour (absorptivity  $\alpha$ ) and radiant barriers (RB):

$$RHGF = U_r * \alpha * RB$$

Equation 13

xxii Picture Source: [http://www.hawaii.gov/dbedt/ert/mec\\_rs\\_f.html](http://www.hawaii.gov/dbedt/ert/mec_rs_f.html)

Building code description : [http://www.hawaii.gov/dbedt/ert/model\\_ec.html](http://www.hawaii.gov/dbedt/ert/model_ec.html)

The maximum RHGF is 0.05 and compliance with this criterion can be achieved by lowering Ur (installing insulation), lowering (using a light colour) and/or installing a radiant barrier (RB). RB is 1.00 for no radiant barrier and 0.33 when a qualifying radiant barrier is installed. To qualify, a radiant barrier must have an emissivity of less than 0.10 and meet other requirements. Table 44 provides a summary of the minimum roof insulation requirements for different roof surface colours. Note that as imperial thermal resistance values are used in Hawaii, they have been converted to metric values for direct comparison in Australia.

Analysis shows that the roof heat gain requirements can be justified economically in air conditioned buildings. They are also justified for natural ventilated buildings because they increase comfort.

Roof Surface Colour	Absorptivit y	Minimum R-Value of Roof Insulation (h ft <sup>2</sup> °F/Btu)		
		With Radiant Barrier (h ft <sup>2</sup> °F/Btu)	m <sup>2</sup> °C/W	Without Radiant Barrier (h ft <sup>2</sup> °F/Btu)
Black or dark grey	0.90	R-3	<b>0.5</b>	R-19
Medium Red, Green, Brown, Gray	0.75	R-2	<b>0.4</b>	R-15
Yellow, Buff	0.60	R-1	<b>0.2</b>	R-11
Light Gray	0.55	R-1	<b>0.2</b>	R-8
White (built-up roof)	0.50	R-0	<b>0</b>	R-7
White (tile, paint, plaster)	0.40	R-0	<b>0</b>	R-5
White (glazed brick, tile or metal)	0.30	R-0	<b>0</b>	R-3

**Table 44: Hawaiian Roof Insulation Requirements**

- **Natural Ventilation:** The natural ventilation requirements are intended to eliminate (with the help of the roof heat gain requirements) the need for air conditioning. Habitable rooms (kitchens, bedrooms, living areas and dining rooms) must have two operable openings on opposite or adjacent walls for cross ventilation or on opposite sides of a wing wall. The minimum free ventilation area must be at least 12% of the floor area. In addition, louvers or door catches must be installed on interior doors. Habitable rooms that do not satisfy the natural ventilation requirements must be wired for the future installation of ceiling fans. The wiring must enable wall-mounted, variable-speed fan controls.
- **Water Heating:** Water heating is the major energy user for most Hawaii residences. The Code achieves savings by requiring hot water conservation devices, pipe insulation, and temperature control.

When air conditioning is installed there are additional requirements for equipment efficiency, wall insulation or shading, window tinting or shading, and air leakage.

- **Equipment Efficiency:** Split system air conditioners must have a minimum SEER (Seasonal Energy Efficiency Rating) of 10.0. Packaged air conditioners must have an SEER of at least 9.7. These requirements are consistent with federal law in the NAECA (National Appliance Energy Conservation Act). NAECA also has requirements for room air conditioners and heat pumps.
- **Wall Insulation or Shading:** Walls in air conditioned buildings must either be insulated or shaded to prevent heat gain.
- **Window Tinting or Shading:** Windows must be shaded with overhangs or other permanent devices, or alternatively, solar gain may be controlled with tinted glazing. The requirements become more stringent with larger glass areas. Separate, less stringent requirements are provided for north-facing windows.
- **Air Leakage:** Windows and doors in air conditioned buildings must be tight fitting to minimize air leakage. Jalousie windows are limited to a maximum of 2% of the exterior wall area.

## 10.2 New Zealand

New Zealand has had requirements for thermal insulation in houses since 1 April 1978. Although modified in 1993 and updated in 2000, the changes have only been in the levels of thermal performance required, not in the building components subject to the NZ Building Code Clause H1 : Energy Efficiency<sup>xxiii</sup>.

Although a performance based code, the majority of users utilise the ‘deemed-to-satisfy’ alternative, which has requirements only for insulation in the roof, wall and floor. There are no requirements for window or eaves. The ‘alternative solution’ does provide a method by which the energy efficiency benefits of windows or eaves can be used to achieve code compliance.

# Final Report

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<sup>xxiii</sup> Isaacs N 1999 **Performance Based Building Energy Efficiency Code** in *Proc. Global Building Model in the Next Millennium Conference* Melbourne 12 - 15 April 1999 pp 108-118 (BRANZ Conference Paper 63)

## 11. APPENDIX: HOUSE SELECTION & DESIGNS

This appendix provides a summary of the statistical data used to select the six typical house types for analysis, and floor plans of the houses used in the analysis.

### 11.1 Statistical Data

The following table is based on George Wilkenfeld and Associates (2001) for ACT and Energy Efficient Strategies (2000) for Victoria

**Table 45 : Statistical Data from ACT and Victoria Housing Practices**

Sample Size / Different Plans	Description	Rated Floor Area	Total* Gross Floor Area	Window Total / Floor	Window Max / Total	Window Min / Total	Window Total	North Window Total	East Window Total	South Window Total	West Window Total
<b>ACT - All Detached</b>											
687 498	ACT Detached 25%	131.4	131.4	19.3%	59.4%	0.0%	25.4	9.5	0.0	15.1	0.8
	ACT Detached 50%	178.0	178.0	23.8%	52.8%	4.2%	42.4	22.4	5.4	12.8	1.8
	ACT Detached 75%	216.8	216.8	25.3%	35.2%	15.3%	54.9	16.2	11.0	8.4	19.3
	25%ile	131.4	131.4	18.8%	34.3%	6.5%	26.4	7.0	5.2	5.2	4.7
	Median	178.2	178.2	20.7%	39.5%	12.0%	37.0	10.6	8.4	8.3	7.9
	75%ile	216.7	216.7	24.0%	47.9%	16.1%	46.7	15.8	13.0	12.0	11.4
	Deviation	65.0	65.0	4.5%	9.9%	6.5%	17.3	8.1	6.5	5.8	5.7
209 68	Average	182.6	182.6	21.6%	41.9%	11.1%	39.5	12.2	9.6	9.1	8.6
	Maximum	479.0	479.0	50.6%	86.7%	24.1%	151.3	63.5	48.0	47.6	41.3
	Minimum	61.0	61.0	8.7%	25.8%	0.0%	7.8	0.0	0.0	0.0	0.0
	<b>ACT - All Attached</b>										
	ACT All Attached 25%	121.9	121.9	25.0%	30.7%	11.1%	30.5	8.8	9.0	9.4	3.4
	ACT All Attached 50%	144.3	144.3	15.5%	44.6%	12.9%	22.4	10.0	2.9	4.8	4.8
	ACT All Attached 75%	165.0	165.0	18.3%	37.6%	7.1%	30.2	7.0	2.2	9.7	11.4
56 30	25%ile	121.9	121.9	15.9%	36.6%	0.0%	21.0	5.4	0.5	3.8	1.8
	Median	144.3	144.3	18.3%	44.6%	2.1%	25.4	8.1	4.2	6.6	3.9
	75%ile	165.0	165.0	20.4%	53.8%	13.6%	30.2	11.3	9.6	9.8	6.7
	Deviation	43.9	43.9	3.7%	13.1%	7.8%	10.3	5.5	6.0	4.6	4.4
	Average	142.8	142.8	18.6%	46.1%	6.6%	26.4	8.3	5.9	7.3	4.9
	Maximum	393.0	393.0	33.5%	100.0%	24.3%	106.6	38.5	40.9	25.0	21.3
	Minimum	31.0	31.0	11.6%	25.7%	0.0%	4.0	0.0	0.0	0.0	0.0
<b>ACT - 1 Storey Attached</b>											
153 38	ACT 1 Attached 25%	80.0	80.0	26.3%	52.4%	0.0%	21.0	0.0	11.0	0.0	10.0
	ACT 1 Attached 50%	147.2	147.2	27.4%	37.7%	9.4%	40.3	9.7	11.6	15.2	3.8
	ACT 1 Attached 75%	168.0	168.0	17.6%	38.0%	0.0%	29.5	10.5	7.8	0.0	11.2
	25%ile	80.0	80.0	17.6%	38.0%	0.0%	16.6	4.3	0.4	3.1	0.5
	Median	142.1	142.1	19.1%	41.8%	0.0%	28.9	7.4	4.0	6.6	3.8
	75%ile	168.0	168.0	22.0%	55.1%	7.8%	30.7	10.5	10.5	10.7	7.7
	Deviation	54.5	54.5	3.9%	14.9%	6.6%	10.8	5.6	5.4	6.3	4.7
153 38	Average	131.6	131.6	20.0%	46.9%	4.7%	26.1	7.6	5.9	7.8	4.8
	Maximum	312.4	312.4	33.5%	100.0%	20.0%	51.2	31.3	20.5	25.0	17.8
	Minimum	31.0	31.0	12.9%	29.5%	0.0%	4.0	0.0	0.0	0.0	0.0
<b>ACT - 2 Storey Attached</b>											
153 38	ACT 2 Attached 25%	126.8	126.8	20.1%	37.3%	3.7%	25.5	9.5	1.0	8.9	6.2
	ACT 2 Attached 50%	144.3	144.3	15.5%	44.6%	12.9%	22.4	10.0	2.9	4.8	4.8
	ACT 2 Attached 75%	165.0	165.0	18.3%	37.6%	7.1%	30.2	7.0	2.2	9.7	11.4
	25%ile	126.8	126.8	15.6%	35.4%	0.0%	21.5	6.3	0.5	4.6	2.2
	Median	144.3	144.3	18.3%	46.4%	2.5%	24.8	8.4	4.8	6.6	4.3
	75%ile	165.0	165.0	19.2%	53.8%	14.4%	29.8	11.4	7.7	9.7	6.5
	Deviation	38.7	38.7	3.5%	12.4%	8.1%	10.2	5.4	6.2	3.8	4.3
153 38	Average	146.9	146.9	18.1%	45.8%	7.3%	26.5	8.5	5.9	7.2	4.9
	Maximum	393.0	393.0	32.4%	78.2%	24.3%	106.6	38.5	40.9	21.2	21.3
	Minimum	89.4	89.4	11.6%	25.7%	0.0%	18.2	0.0	0.0	0.0	0.0

Victoria - All Detached												
Vic Detached 25%	146.6	161.0	23.8%	54.6%	0.0%	38.3	20.9	0.0	12.2	5.2		
Vic Detached 50%	187.5	205.9	33.3%	35.0%	16.2%	68.5	16.0	17.5	24.0	11.1		
Vic Detached 75%	242.7	266.5	14.9%	59.2%	7.6%	39.7	3.0	8.8	23.5	4.4		
<b>206</b>	25th %ile	146.7	161.1	16.1%	35.8%	0.0%	29.7	0.0	7.6	8.8	5.9	
<b>191</b>	Median	187.5	205.9	19.1%	41.2%	4.8%	40.0	2.1	11.3	12.2	10.1	
	75th %ile	242.7	266.5	23.1%	49.6%	13.3%	52.6	10.8	16.2	17.8	15.4	
	Deviation	74.2	81.5	5.4%	11.9%	7.3%	18.2	7.0	6.6	6.4	7.9	
	Average	198.4	217.8	19.7%	43.7%	7.2%	42.4	5.7	12.2	13.1	11.3	
	Maximum	537.4	590.1	35.7%	93.5%	23.8%	147.3	34.2	45.1	33.3	71.1	
	Minimum	53.6	58.9	8.5%	25.7%	0.0%	7.6	0.0	0.0	0.0	0.0	
Victoria - Ballarat Detached (Climate 24)												
Ball Detached 25%	152.5	167.4	14.3%	50.6%	0.0%	23.9	0.0	6.8	12.1	5.0		
Ball Detached 50%	174.1	191.2	22.3%	35.4%	17.6%	42.7	7.5	12.3	7.8	15.1		
Ball Detached 75%	204.3	224.3	19.5%	43.4%	14.8%	43.8	6.5	7.5	19.0	10.8		
<b>20</b>	25th %ile	149.7	164.4	16.1%	36.6%	0.0%	29.8	0.0	6.7	9.3	6.1	
<b>20</b>	Median	174.1	191.2	18.9%	40.0%	3.7%	35.1	1.2	9.7	11.1	8.9	
	75th %ile	206.7	226.9	21.4%	50.6%	12.1%	41.4	6.8	13.6	13.9	12.9	
	Deviation	42.5	46.7	3.6%	11.3%	7.2%	9.0	4.7	5.3	4.5	5.0	
	Average	171.9	188.7	18.7%	43.7%	6.5%	34.7	3.6	10.0	11.6	9.1	
	Maximum	231.2	253.9	26.4%	81.7%	22.9%	52.7	14.1	19.3	19.6	19.3	
	Minimum	53.6	58.9	11.9%	30.2%	0.0%	13.9	0.0	0.5	0.0	0.6	
Victoria - Melbourne Detached (Climate 21)												
Mel Detached 25%	146.4	160.7	16.2%	50.8%	5.7%	26.1	1.5	13.3	4.3	7.1		
Mel Detached 50%	200.4	220.0	17.9%	33.1%	15.8%	39.3	6.2	13.0	10.4	9.7		
Mel Detached 75%	252.0	276.7	19.6%	44.7%	8.5%	54.1	4.6	6.8	18.5	24.2		
<b>155</b>	25th %ile	146.5	160.9	16.8%	35.1%	0.0%	30.7	0.0	8.3	8.8	6.8	
<b>145</b>	Median	200.3	219.9	19.2%	40.6%	5.7%	44.1	2.5	12.0	12.6	11.0	
<b>0</b>	75th %ile	252.5	277.2	23.6%	48.3%	14.0%	56.4	11.2	16.9	18.5	16.4	
<b>0</b>	Deviation	78.6	86.3	5.5%	10.8%	7.4%	19.5	7.4	6.9	6.5	8.3	
<b>0</b>	Average	205.5	225.6	20.2%	42.6%	7.5%	45.0	6.3	12.9	13.5	12.2	
<b>0</b>	Maximum	537.4	590.1	35.7%	90.2%	23.8%	147.3	34.2	45.1	33.3	71.1	
<b>0</b>	Minimum	76.0	83.4	9.1%	25.7%	0.0%	7.6	0.0	0.0	0.8	0.0	
Victoria - Shepparton Detached (Climate 20)												
Shepp Detached 25%	148.6	163.2	17.7%	55.9%	2.4%	28.8	0.7	7.5	16.1	4.5		
Shepp Detached 50%	165.2	181.4	19.2%	47.4%	2.3%	34.8	16.5	5.2	12.3	0.8		
Shepp Detached 75%	212.7	233.5	25.6%	37.4%	6.3%	59.9	3.8	22.4	12.2	21.5		
<b>31</b>	25th %ile	148.5	163.0	14.7%	36.9%	0.0%	28.6	0.0	7.3	7.7	3.7	
<b>30</b>	Median	165.9	182.1	18.1%	46.7%	2.4%	34.6	0.7	9.1	11.7	6.3	
	75th %ile	209.0	229.4	22.6%	57.1%	8.9%	40.6	5.1	12.2	14.6	11.2	
	Deviation	59.7	65.6	5.4%	15.4%	6.8%	10.2	5.5	4.9	6.8	5.8	
	Average	178.0	195.5	18.0%	48.9%	5.4%	33.8	3.7	10.1	12.1	7.6	
	Maximum	407.3	447.2	28.9%	93.5%	21.6%	59.9	17.2	22.4	28.8	21.5	
	Minimum	84.0	92.2	8.5%	27.1%	0.0%	12.3	0.0	0.0	0.0	0.0	
Victoria - All Attached												
Vic Attached 25%	114.2	125.4	31.7%	50.8%	0.0%	36.2	0.0	12.4	18.4	5.4		
Vic Attached 50%	124.6	136.8	20.9%	40.2%	1.5%	26.1	2.6	3.8	10.5	9.3		
Vic Attached 75%	157.9	173.4	15.2%	42.1%	1.7%	24.0	8.3	0.0	10.1	5.6		
<b>31</b>	25th %ile	114.7	125.9	19.4%	40.5%	0.0%	24.8	5.3	1.5	4.6	1.8	
<b>27</b>	Median	124.6	136.8	23.1%	43.0%	0.0%	29.7	9.0	6.1	7.6	6.1	
	75th %ile	157.7	173.1	27.7%	50.2%	7.5%	36.3	12.5	12.4	10.3	10.7	
	Deviation	32.1	35.2	5.9%	10.7%	6.3%	9.2	5.1	6.0	5.0	5.9	
	Average	138.3	151.9	22.9%	46.3%	4.2%	31.3	9.2	7.1	8.0	7.1	
	Maximum	222.4	244.2	33.0%	80.8%	22.5%	55.3	22.1	20.1	18.9	22.9	
	Minimum	99.2	108.9	10.5%	28.7%	0.0%	10.4	0.0	0.0	0.0	0.0	
Victoria - 1 Storey Attached												
ACT Single Attached 25%	113.2	124.3	29.5%	55.4%	17.1%	33.4	10.1	0.0	4.8	18.5		
ACT Single Attached 50%	114.2	125.4	31.7%	50.8%	0.0%	36.2	0.0	12.4	18.4	5.4		
ACT Single Attached 75%	124.6	136.8	20.9%	40.2%	11.1%	26.1	2.6	3.8	10.5	9.3		
<b>12</b>	25th %ile	113.2	124.2	20.6%	40.5%	0.0%	26.8	5.4	2.3	4.6	5.7	
<b>10</b>	Median	113.7	124.8	25.2%	44.3%	0.4%	31.3	10.1	4.8	8.5	7.6	
	75th %ile	124.7	136.9	30.8%	50.3%	11.8%	34.2	12.2	6.6	11.3	10.8	
	Deviation	9.7	10.7	5.3%	7.2%	7.0%	5.3	4.6	3.7	5.2	5.6	
	Average	117.9	129.4	25.9%	45.2%	5.5%	30.3	8.6	4.7	8.6	8.2	
	Maximum	139.5	153.2	33.0%	57.5%	17.1%	36.5	15.7	12.4	18.4	18.5	
	Minimum	101.8	111.8	19.5%	33.2%	0.0%	22.1	0.0	0.0	0.0	0.0	

Victoria - 2 Storey Attached											
Vic 2 Attached 25%	121.1	133.0	30.1%	37.1%	0.0%	36.4	12.0	13.5	0.0	10.9	
Vic 2 Attached 50%	153.8	168.9	17.0%	53.8%	5.0%	26.2	14.1	0.0	5.4	6.7	
Vic 2 Attached 75%	158.8	174.4	27.8%	45.6%	0.0%	44.1	12.3	20.1	10.0	1.8	
<b>19 17</b>	25th %ile	121.8	133.7	16.6%	40.8%	0.0%	24.1	6.1	1.5	4.7	1.5
	Median	153.8	168.9	19.4%	42.8%	0.0%	29.7	9.0	7.8	6.4	5.6
	75th %ile	168.5	185.0	25.1%	48.2%	4.9%	37.3	13.2	14.2	10.1	9.7
	Deviation	34.7	38.1	5.6%	12.5%	5.7%	11.1	5.5	6.7	4.9	6.1
	Average	151.3	166.1	21.1%	47.0%	3.3%	32.0	9.5	8.6	7.5	6.3
	Maximum	222.4	244.2	30.1%	80.8%	22.5%	55.3	22.1	20.1	18.9	22.9
NatHERS Base 1000a											
Living	80.2	80.2	25.6%	42.9%	0.0%	20.5	8.8	0	6	5.7	
Bed	39.3	39.3	19.3%	50.0%	0.0%	7.6	3.8	3.8	0	0	
Other Conditioned	23.3	23.3	16.3%	100.0%	0.0%	3.8	0	3.8	0	0	
Unconditioned	14.2	14.2	9.9%	100.0%	0.0%	1.4	0	0	1.4	0	
<b>Total Areas</b>	<b>157.0</b>	<b>157.0</b>	<b>21.2%</b>	<b>37.8%</b>	<b>17.1%</b>	<b>33.3</b>	<b>12.6</b>	<b>7.6</b>	<b>7.4</b>	<b>5.7</b>	
WERS Generic											
Living	79.2	79.2	21.1%	34.7%	0.0%	16.7	5.8	0	5.1	5.8	
Bed	39.1	39.1	22.5%	65.9%	0.0%	8.8	5.8	3	0	0	
Other Conditioned	18.4	18.4	36.4%			6.7	0	2.8	3.9	0	
Unconditioned	20.8	20.8	11.5%	100.0%	0.0%	2.4	0	0	2.4	0	
<b>Total Areas</b>	<b>157.5</b>	<b>157.5</b>	<b>22.0%</b>	<b>33.5%</b>	<b>16.8%</b>	<b>34.6</b>	<b>11.6</b>	<b>5.8</b>	<b>11.4</b>	<b>5.8</b>	
Generic Passive Solar											
Living	79.2	79.2	20.7%	61.0%	0.0%	16.4	10	0	3	3.4	
Bed	39.1	39.1	25.6%	70.0%	0.0%	10	7	3	0	0	
Other Conditioned	18.4	18.4	31.5%	51.7%	0.0%	5.8	0	2.8	3	0	
Unconditioned	20.8	20.8	11.5%	100.0%	0.0%	2.4	0	0	2.4	0	
<b>Total Areas</b>	<b>157.5</b>	<b>157.5</b>	<b>22.0%</b>	<b>49.1%</b>	<b>9.8%</b>	<b>34.6</b>	<b>17.0</b>	<b>5.8</b>	<b>8.4</b>	<b>3.4</b>	

\* Total Gross Floor Area estimated by raising 1st rate conditioned floor areas by 9.8%

# Final Report

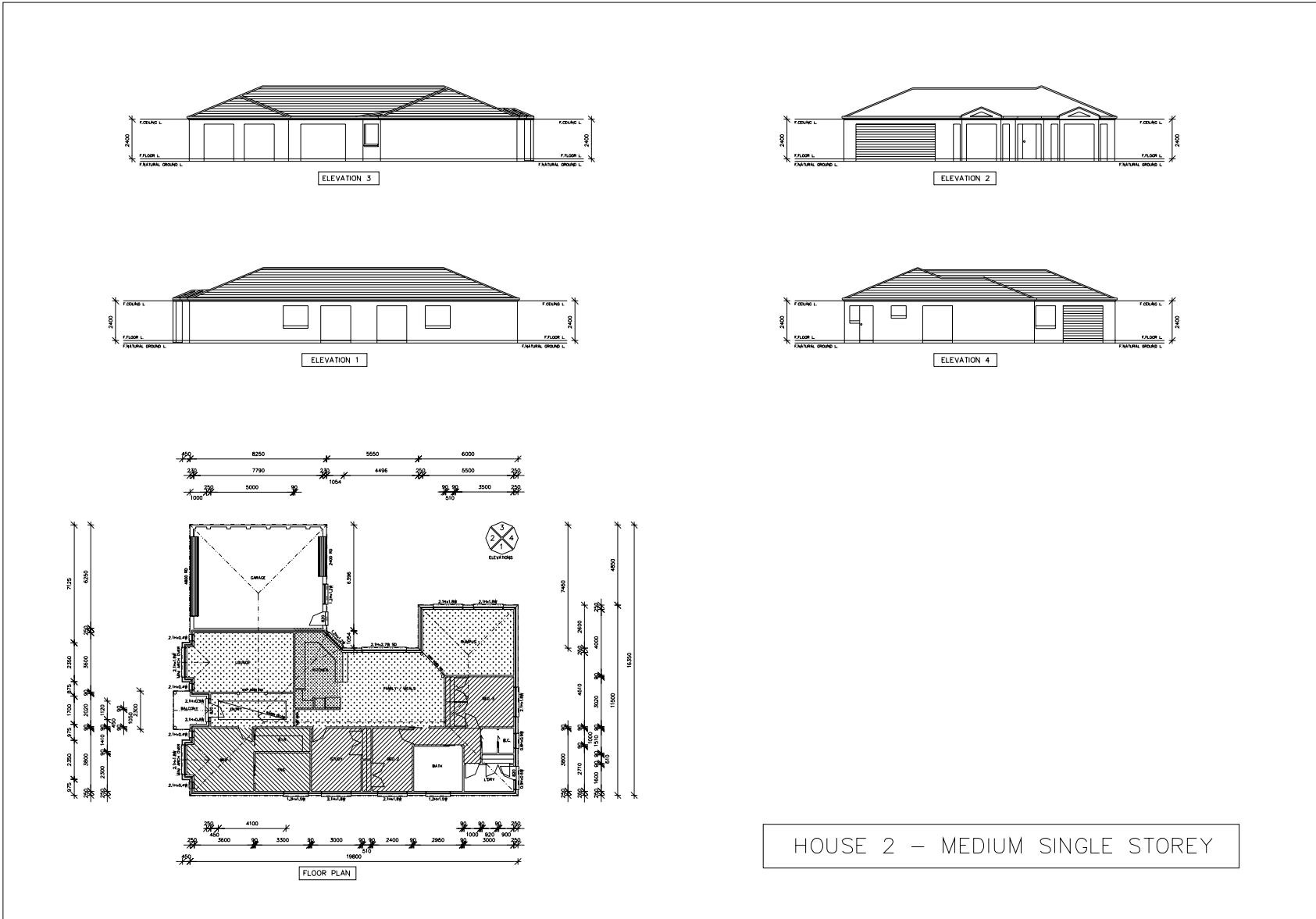
## **11.2 House Plans**

The following plans illustrate the houses used in the analysis, following the selection methodology described in Section 2 House Designs. In case of any discrepancy, the actual houses are as represented in the NatHERS house files. Further details on the source of the house design, floor area, window area etc is given in Table 6: Selected Houses – Areas, page 13.

- House 1: Small Single Storey
- House 2: Medium Single Storey
- House 3: Large Two Storey
- House 4: Townhouse
- House 5: Cross Ventilated Tropics
- House 6: Passive Solar Design

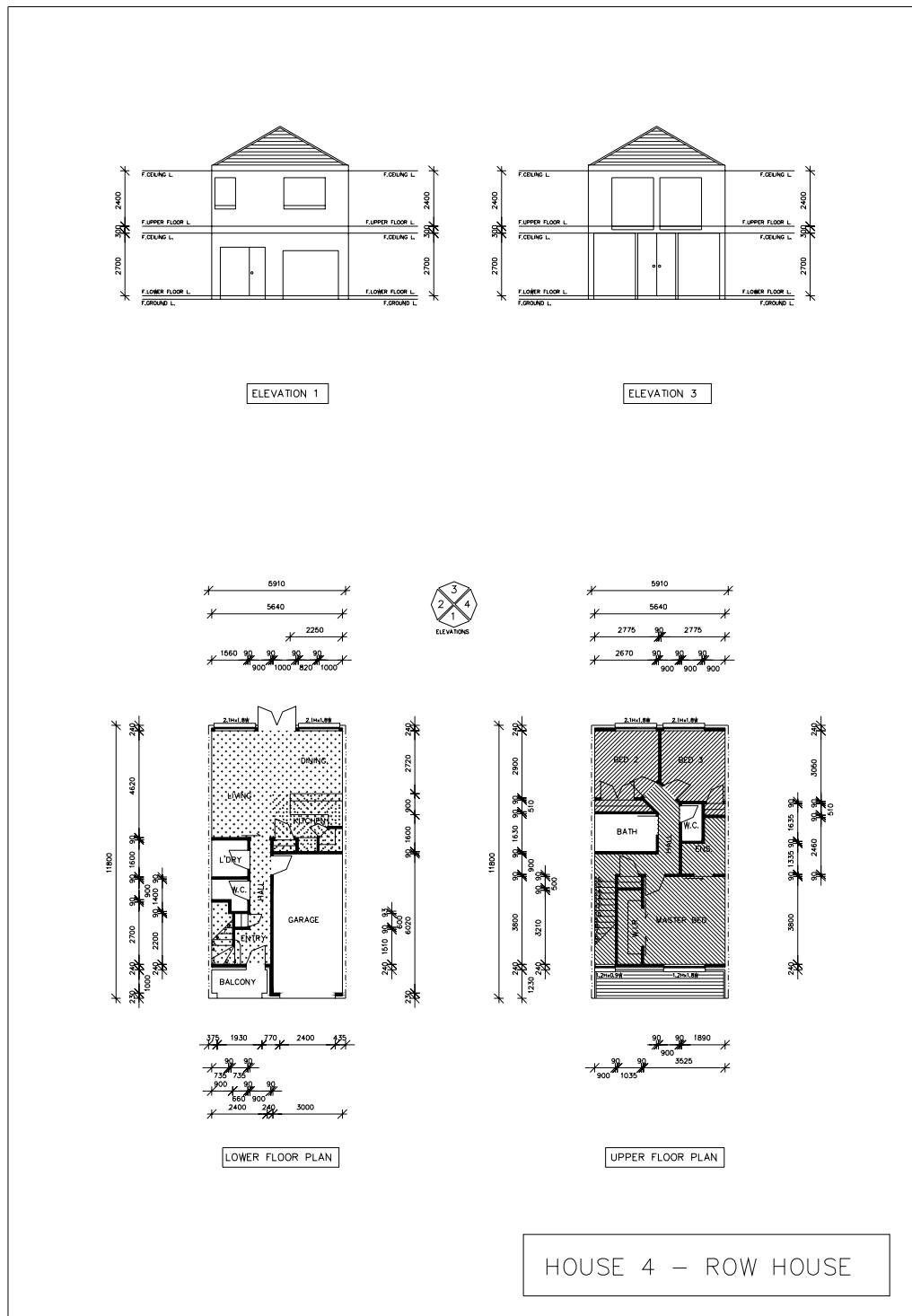
# Final Report

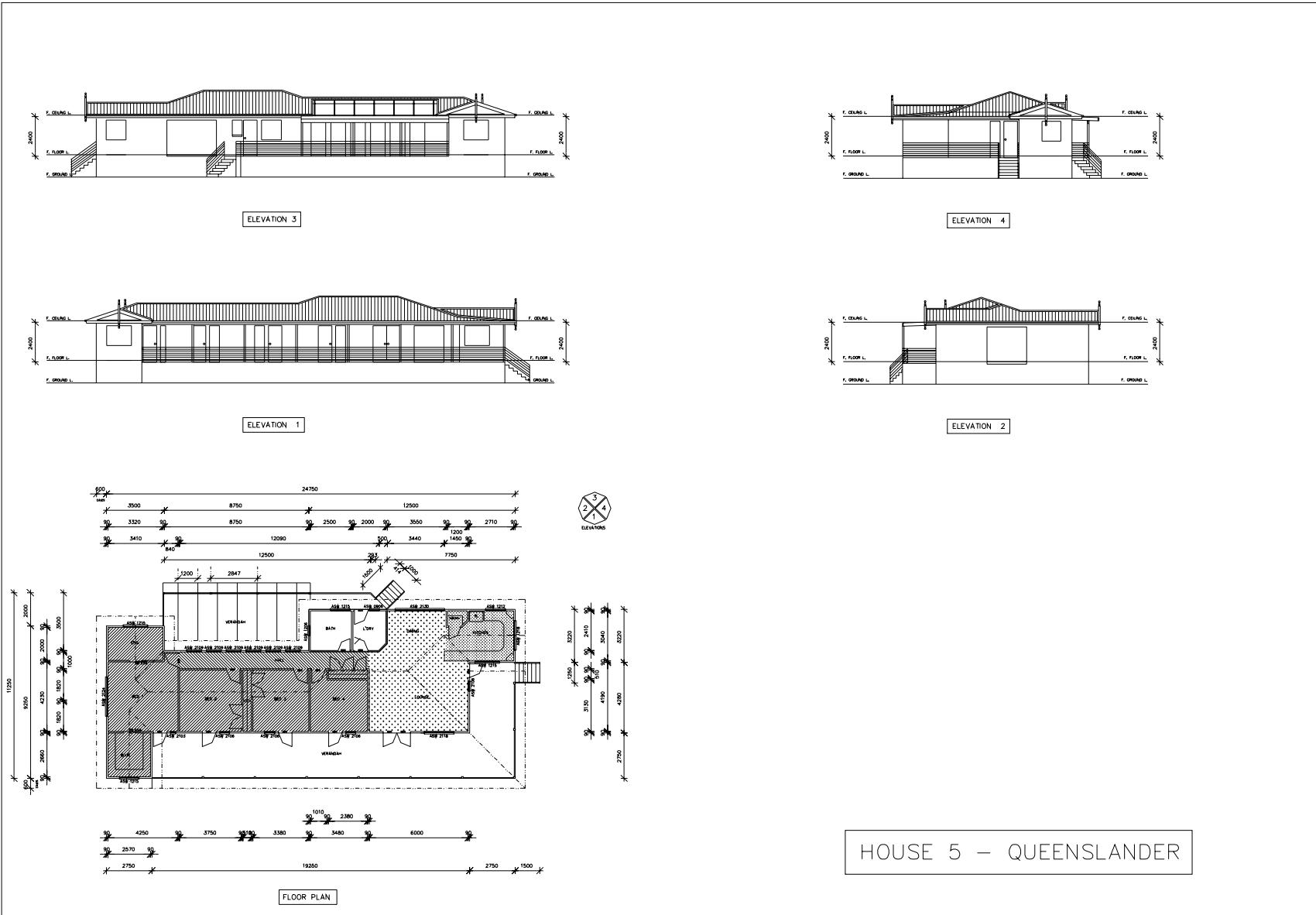


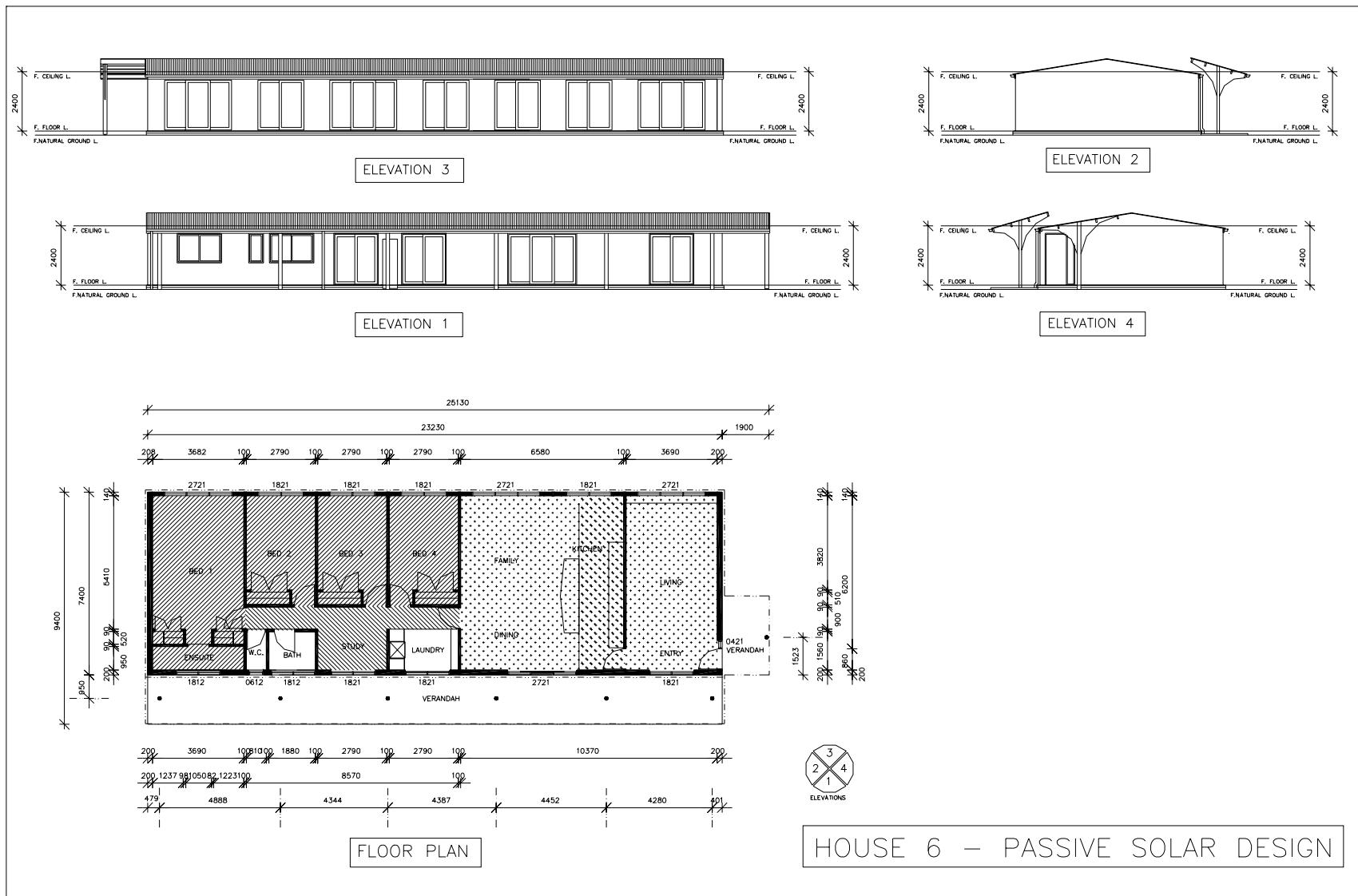


HOUSE 2 – MEDIUM SINGLE STOREY









## 12. APPENDIX: PRICING, ENERGY & ECONOMIC RESULTS

### 12.1 Energy Model Results

The results from the NatHERS energy model runs are stored in an Access 2000 database in the format given in Table 46, and described in Table 47

													Location
													Design
													Lifestyle
713.8	211.1	1	1	0	1	0	0	0	1	1	1	1	3
763.1	143.4	1	1	0	1	0	0	0	1	2	1	1	3
714.4	175.8	1	1	0	1	0	0	0	1	3	1	1	3
906.6	87.8	1	1	0	1	0	0	0	1	4	1	1	3

Table 46: Example of Energy Model Results Database

Heading	Description	Code / Units
kwW	Energy Use for heating (Winter)	MJ/m <sup>2</sup> /year
kwS	Energy use for cooling (Summer)	MJ/m <sup>2</sup> /year
Orient	House orientation	1 = North 2 = South 3 = East 4 = West
FloorTyp	Floor type	1 = Timber 2 = Concrete
Floor	Floor insulation	see Table 10, page 18 for prices
WallTyp	Wall type	1 = Weatherboard 2 = Brick Veneer 3 = Double Brick - cavity 4 = Concrete block
Wall	Wall insulation	see Table 9, page 18 for prices
Ceiling	Ceiling insulation	see Table 8, page 17 for prices
Glazing	Glazing / Window type	see Table 11, page 19 for prices
Shade	Shading type	see Table 12, page 19 for prices
Lifestyle	Hours of operation	1 = 7 am to 12 pm (17 hours) 2 = 7 am to 9am, 5 pm to 11 pm (8 hours)
Design	House Design	see Figure 9, page 28 for illustration
Location	Climate location	see Table 16, page 22

Table 47: Description of Energy Model Results Database Fields

## 12.2 NatHERS and EnCom2 Comparison

The following table provides the results of the NatHERS and EnCom2 modelling undertaken for the RIS study, as discussed in Section 4.7. Roof code “0” has no insulation, “1” has reflective foil laminate and “2” has R-1 bulk insulation.

House	Climate	Roof	Conditioned floor area (m <sup>2</sup> )	NatHERS				EnCom2			
				Total Energy MJ/m <sup>2</sup>	Heating Energy MJ/m <sup>2</sup>	Sensible Cooling Energy MJ/m <sup>2</sup>	Latent Cooling Energy MJ/m <sup>2</sup>	Total Energy MJ/m <sup>2</sup>	Heating Energy MJ/m <sup>2</sup>	Sensible Cooling Energy MJ/m <sup>2</sup>	Latent Cooling Energy MJ/m <sup>2</sup>
1	2	0	142.8	273.2	89.2	159.8	24.2	391.6	117.7	232.9	41.1
2	2	0	168.2	323.6	92.4	200.2	31.0	437.2	120.3	269.3	47.5
3	2	0	202.8	327.0	63.6	228.9	34.5	340.8	93.1	210.6	37.2
4	2	0	83.9	208.3	67.3	114.4	26.7	242.0	142.1	84.9	15.0
5	2	0	138.2	504.6	198.0	266.8	39.9	530.2	206.9	274.8	48.5
6	2	0	151.8	198.8	40.2	131.0	27.5	285.1	55.7	194.9	34.4
1	4	0	142.8	822.9	0.0	686.3	136.6	849.5	0.1	722.0	127.4
2	4	0	168.2	923.3	0.0	747.3	176.1	982.5	0.0	835.1	147.4
3	4	0	202.8	1,045.6	0.1	858.9	186.6	819.4	0.2	696.3	122.9
4	4	0	83.9	735.8	0.0	550.3	185.5	519.5	0.2	441.4	77.9
5	4	0	138.2	1,127.3	0.6	931.8	194.8	953.2	2.0	808.5	142.7
6	4	0	151.8	990.8	0.0	799.9	190.9	865.4	-	735.6	129.8
1	5	0	142.8	705.8	694.7	10.5	0.6	769.6	730.4	33.3	5.9
2	5	0	168.2	697.5	678.5	18.4	0.7	812.5	769.3	36.8	6.5
3	5	0	202.8	614.8	594.1	19.9	0.7	753.9	733.7	17.2	3.0
4	5	0	83.9	538.5	530.7	7.3	0.5	817.7	816.4	1.1	0.2
5	5	0	138.2	1,135.5	1,109.0	25.1	1.3	1,107.5	1,067.5	34.0	6.0
6	5	0	151.8	665.6	660.0	5.2	0.4	646.0	630.4	13.2	2.3
1	8	0	142.8	586.0	401.2	180.9	4.0	712.1	448.9	223.7	39.5
2	8	0	168.2	624.7	396.8	224.1	3.8	786.6	470.0	269.1	47.5
3	8	0	202.8	563.2	329.1	230.1	4.1	682.9	448.7	199.1	35.1
4	8	0	83.9	513.0	345.3	163.4	4.3	655.6	539.5	98.7	17.4
5	8	0	138.2	985.6	684.7	294.7	6.2	1,004.2	689.3	267.7	47.2
6	8	0	151.8	525.6	353.6	167.4	4.6	559.6	351.1	177.2	31.3
1	12	0	142.8	457.1	309.2	138.6	9.3	567.7	359.3	177.1	31.3
2	12	0	168.2	485.7	304.6	170.3	10.8	608.7	372.4	200.8	35.4
3	12	0	202.8	443.2	252.0	179.3	11.9	515.4	343.3	146.3	25.8
4	12	0	83.9	358.4	235.4	114.5	8.6	460.4	399.1	52.1	9.2
5	12	0	138.2	791.7	542.6	233.5	15.7	766.1	522.3	207.3	36.6
6	12	0	151.8	365.3	250.5	106.1	8.8	423.5	267.0	133.1	23.5
1	2	1	142.8	167.0	61.4	87.0	18.7	277.7	81.5	166.8	29.4
2	2	1	168.2	211.9	63.8	123.6	24.4	323.7	84.5	203.4	35.9
3	2	1	202.8	252.8	46.9	174.4	31.5	296.3	76.4	186.9	33.0
4	2	1	83.9	151.2	50.1	77.3	23.8	195.2	116.9	66.6	11.7
5	2	1	138.2	347.6	168.6	147.8	31.3	438.5	185.3	215.2	38.0
6	2	1	151.8	97.4	21.3	57.8	18.4	234.7	35.2	169.6	29.9
1	4	1	142.8	612.2	0.0	484.2	128.0	648.6	0.0	551.3	97.3
2	4	1	168.2	711.0	0.0	547.5	163.5	781.6	-	664.4	117.2
3	4	1	202.8	909.7	0.0	728.0	181.6	740.8	0.1	629.6	111.1
4	4	1	83.9	620.9	0.0	442.2	178.8	429.4	0.0	365.0	64.4
5	4	1	138.2	827.3	0.4	647.9	179.0	826.5	1.5	701.2	123.7
6	4	1	151.8	732.8	0.0	556.9	175.9	751.5	-	638.8	112.7
1	5	1	142.8	569.4	565.3	3.7	0.3	596.4	573.4	19.6	3.5
2	5	1	168.2	556.4	547.6	8.5	0.4	637.3	611.2	22.2	3.9
3	5	1	202.8	541.7	529.6	11.6	0.6	665.2	649.3	13.5	2.4
4	5	1	83.9	455.5	451.7	3.4	0.4	709.6	709.3	0.3	0.1
5	5	1	138.2	1,027.9	1,017.4	9.7	0.8	1,032.4	1,006.6	21.9	3.9
6	5	1	151.8	542.1	541.2	0.8	0.1	520.5	509.0	9.8	1.7
1	8	1	142.8	407.3	322.3	110.8	3.6	534.0	348.6	157.5	27.8
2	8	1	168.2	440.0	317.1	150.2	3.3	605.7	368.7	201.4	35.5
3	8	1	202.8	441.8	278.3	179.2	3.9	601.2	395.8	174.6	30.8
4	8	1	83.9	405.5	296.6	123.9	4.2	559.7	468.9	77.2	13.6
5	8	1	138.2	800.9	631.2	189.1	5.7	911.5	650.8	221.6	39.1
6	8	1	151.8	341.9	280.8	92.6	3.9	448.3	275.4	146.9	25.9
1	12	1	142.8	276.2	239.7	59.5	5.9	403.3	269.4	113.8	20.1
2	12	1	168.2	296.9	233.8	85.5	7.3	444.6	282.3	137.9	24.3
3	12	1	202.8	318.6	207.0	120.6	10.0	442.3	296.3	124.1	21.9
4	12	1	83.9	252.4	193.3	70.4	7.2	394.3	338.4	47.5	8.4
5	12	1	138.2	585.4	489.0	110.0	10.9	663.9	480.3	156.0	27.5
6	12	1	151.8	192.0	186.3	33.3	3.9	327.9	201.1	107.8	19.0

House	Climate	Roof	Conditioned floor area (m <sup>2</sup> )	NatHERS				EnCom2			
				Total Energy MJ/m <sup>2</sup>	Heating Energy MJ/m <sup>2</sup>	Sensible Cooling Energy MJ/m <sup>2</sup>	Latent Cooling Energy MJ/m <sup>2</sup>	Total Energy MJ/m <sup>2</sup>	Heating Energy MJ/m <sup>2</sup>	Sensible Cooling Energy MJ/m <sup>2</sup>	Latent Cooling Energy MJ/m <sup>2</sup>
1	2	2	142.8	145.3	36.4	89.8	19.1	246.6	42.4	173.6	30.6
2	2	2	168.2	203.8	36.2	140.7	26.8	285.8	45.0	204.7	36.1
3	2	2	202.8	243.4	31.0	180.5	31.9	291.6	50.3	205.1	36.2
4	2	2	83.9	135.9	34.1	77.9	23.9	165.0	87.0	66.3	11.7
5	2	2	138.2	330.0	138.3	159.0	32.8	358.0	128.4	195.2	34.4
6	2	2	151.8	87.7	6.0	62.2	19.4	239.0	10.7	194.0	34.2
1	4	2	142.8	606.8	0.0	478.9	127.9	589.4	-	501.0	88.4
2	4	2	168.2	737.4	0.0	570.2	167.2	725.6	-	616.8	108.8
3	4	2	202.8	904.5	0.0	722.8	181.6	720.7	0.0	612.6	108.1
4	4	2	83.9	613.4	0.0	435.2	178.1	403.6	-	343.1	60.5
5	4	2	138.2	833.7	0.3	653.9	179.5	742.6	1.0	630.4	111.2
6	4	2	151.8	743.9	0.0	567.1	176.8	706.0	-	600.1	105.9
1	5	2	142.8	420.1	415.8	4.0	0.4	387.1	358.3	24.5	4.3
2	5	2	168.2	404.3	393.3	10.5	0.5	423.8	392.0	27.0	4.8
3	5	2	202.8	425.6	410.7	14.2	0.6	492.6	469.7	19.5	3.4
4	5	2	83.9	366.4	362.4	3.6	0.4	582.2	581.9	0.3	0.1
5	5	2	138.2	878.0	866.3	10.9	0.9	787.4	764.1	19.8	3.5
6	5	2	151.8	364.7	363.2	1.3	0.2	315.2	298.4	14.3	2.5
1	8	2	142.8	335.1	225.9	105.6	3.6	387.4	209.5	151.3	26.7
2	8	2	168.2	377.9	221.1	153.3	3.6	456.6	227.8	194.5	34.3
3	8	2	202.8	400.8	217.8	179.2	3.9	488.1	279.7	177.1	31.3
4	8	2	83.9	328.8	226.4	98.3	4.1	466.2	381.2	72.2	12.7
5	8	2	138.2	732.5	536.3	190.4	5.7	728.4	494.3	198.9	35.1
6	8	2	151.8	258.3	165.0	89.4	3.9	317.0	145.1	146.2	25.8
1	12	2	142.8	238.2	170.8	61.3	6.1	292.4	160.4	112.2	19.8
2	12	2	168.2	267.3	161.3	97.7	8.3	329.5	171.5	134.3	23.7
3	12	2	202.8	298.3	161.3	126.8	10.2	366.2	211.6	131.4	23.2
4	12	2	83.9	200.1	140.6	52.8	6.7	312.4	272.0	34.4	6.1
5	12	2	138.2	548.2	417.2	119.2	11.7	510.2	352.0	134.4	23.7
6	12	2	151.8	145.5	105.0	36.1	4.4	229.8	94.6	114.9	20.3

## 12.3 NatHERS default values

The following images are copies of NatHERS energy and building data output reports for each of the 6 houses used in the Cost Benefit Study.

### 12.3.1 House 1

NatHERS V2.31 Nationwide House Energy Rating Scheme					
JobName:	<Enter Name>	Job No:	Ran No:	Climate Zone:	21
Client:	Tony Isaacs	Site Address:	3000	VIC	
Assessor:					
Date:	31/10/2001	Time:	15:4	Page	1
<b>Energy Rating Report</b>					
Description:					

#### RATED ENERGY REQUIREMENTS\*

Heating	Cooling (Sensible)	Cooling (Latent)	Total Energy	
443.6	154.1	5.5	603.1	MJ/m <sup>2</sup> /year
123.2	42.8	1.5	167.5	kWh/m <sup>2</sup> /annum

\* These energy requirements have been calculated using a standard set of occupant behaviours and so do not necessarily represent the usage patterns or lifestyle of the intended occupants. They should be used solely for the purposes of rating the building. They should not be used to infer actual energy consumption or running costs. The settings used for this simulation are shown in the Building Data Report.

# 0 STARS

#### SUMMARY

Total Areas		Ventilation and infiltration	
Conditioned floor area (m <sup>2</sup> )	142.8	Open fireplace w/o damper	N
Total floor area (m <sup>2</sup> )	157.0	Weatherstripping	N
Total wall area (m <sup>2</sup> )	94.7	Vented downlights	N
Total window area (m <sup>2</sup> )	33.2	Exhaust fans w/o damper	N
Construction and Insulation**		Entrance open to living area	
External wall type	Brick Veneer	Vented skylights	N
Internal wall type	Plasterboard on Studs	Fixed wall or ceiling vents	N
Floor type	Timber	Roofspace ventilation	Standard
Window type	Single glazed, clear	Sub-floor space ventilation	Enclosed
Roof space present	Y	Ceiling fans	
Roof type	Roofing Tiles	Living	N
Roof insulation (m <sup>2</sup> .K/W)	None	Bedrooms	N
Ceiling insulation (m <sup>2</sup> .K/W)	None	Other conditioned	N
Wall insulation (m <sup>2</sup> .K/W)	None	<i>Other</i>	
Floor insulation (m <sup>2</sup> .K/W)	None	Terrain category	Suburban
External wall colour	Medium	<i>Hot Water System</i>	
Roof colour	Medium		
Eaves width (mm)	0		
Eaves offset (mm)	0		

\*\* Where there are two or more construction types for a given element (e.g. external wall), only the one with the greatest area is listed here. Refer to Building Data Report for more details.



## NatHERS V2.31

### Nationwide House Energy Rating Scheme

JobName: <Enter Name>	Job No:	Run No: 1	Climate Zone: 21
Client: Tony Isaacs	Site Address: 3000		
Assessor:			
Date: 31/10/2001	Time: 15:41		Page: 1

### Building Data Report

#### Living Area Zone

##### EXTERNAL WALLS

Description	Area m <sup>2</sup>	Azimuth deg	Pergola			Eaves
			Width m	Height m	Sched. #	
Brick Veneer/Insul: None	12.5	0	0.0	0.0	0	Y
Brick Veneer/Insul: None	15.7	270	0.0	0.0	0	Y
Brick Veneer/Insul: None	15.4	180	0.0	0.0	0	Y

##### WINDOWS

Description	Indoor covering	Outdoor covering	Area m <sup>2</sup>	Azl. deg	Pergola			Adjacent Building			Shade by Walls			
					W m	H m	Sch. #	W m	H m	F m	O m	L m	R m	Eaves
4mm single-glazed clear, Al frame, standard	None	None	8.8	0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Y
4mm single-glazed clear, Al frame, standard	None	None	5.3	270	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Y
4mm single-glazed clear, Al frame, standard	None	None	2.2	180	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Y
4mm single-glazed clear, Al frame, standard	None	None	3.8	180	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Y

##### PARTITIONS

Description	Area m <sup>2</sup>	Adjacent zone
Plasterboard on Studs	7.2	UnCond
Plasterboard on Studs	14.2	Bedrooms
Plasterboard on Studs	43.2	Unknown

##### FLOORS

Description	Area m <sup>2</sup>	Adjacent zone
Tin/Tin: None/Cover: Carpet	70.2	SubFloor
Tin/Tin: None/Cover: Vinyl	10.0	SubFloor

##### CEILINGS

Description	Area m <sup>2</sup>	Above ceiling
Plasterboard/Insul: None	79.2	RoofSp



## NatHERS V2.31

Nationwide House Energy Rating Scheme

JobName:	<Enter Name>	Job No:	Run No:	1	Climate Zone:	21
Client:	Tony Isaacs	Site Address:	3000			
Assessor:						
Date:	31/10/2001	Time:	15:4		Page:	2

### Building Data Report

#### Bed Rooms Zone

##### EXTERNAL WALLS

Description	Area m <sup>2</sup>	Azimuth deg	Pergola			Sched. #	Eaves
			Width m	Height m	Length m		
Brick Veneer/Infill: None	17.6	0	0.0	0.0	0	0	Y
Brick Veneer/Infill: None	8.3	90	0.0	0.0	0	0	Y

##### WINDOWS

Description	Indoor covering	Outdoor covering	Area m <sup>2</sup>	Azl. deg	Pergola			Adjacent Building			Shade by Walls			
					W m	H m	Sch. #	W m	H m	F m	O m	L m	R m	Eaves
4mm single-glazed clear, Al frame, standard	None	None	3.8	0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Y
4mm single-glazed clear, Al frame, standard	None	None	3.8	90	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Y

##### PARTITIONS

Description	Area m <sup>2</sup>	Adjacent zone
Plasterboard on Studs	11.8	UnCond
Plasterboard on Studs	15.2	Other
Plasterboard on Studs	14.2	Living
Plasterboard on Studs	20.9	Unknown

##### FLOORS

Description	Area m <sup>2</sup>	Adjacent zone
Timber/Infl: None/Cover: Carpet	19.3	SubFloor

##### CEILINGS

Description	Area m <sup>2</sup>	Above ceiling
Plasterboard/Infl: None	39.1	Roof/Attic



## NatHERS V2.31

Nationwide House Energy Rating Scheme

JobName:	<Enter Name>	Job No:	Run No:	1	Climate Zone:	21
Client:	Tony Isaacs	Site Address:	3000			
Assessor:						
Date:	31/10/2001	Time:	15:4		Page:	3

### Building Data Report

#### Other Conditioned Zone

##### *EXTERNAL WALLS*

Description	Area m <sup>2</sup>	Azimuth deg	Pergola			Sched. %	Eaves
			Width m	Height m	F		
Brick Veneer/Insul: None	7.3	90	0.0	0.0	0	0	Y
Brick Veneer/Insul: None	9.6	180	0.0	0.0	0	0	Y

##### *WINDOWS*

Description	Indoor covering	Outdoor covering	Area m <sup>2</sup>	Azl. deg	Pergola			Adjacent Building			Shade by Walls			
					W m	H m	Sch. %	W m	H m	F m	O m	L m	R m	Eaves
4mm single-glazed clear, Al frame, standard	None	None	3.8	90	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Y

##### *PARTITIONS*

Description	Area m <sup>2</sup>	Adjacent zone
Plasterboard on Studs	13.2	
Plasterboard on Studs	7.0	Bedrooms UnCond

##### *FLOORS*

Description	Area m <sup>2</sup>	Adjacent zone
Timber/linol: None/Cover: Carpet	23.3	SubFloor

##### *CEILINGS*

Description	Area m <sup>2</sup>	Above ceiling
Plasterboard/Insul: None	23.3	Roof/Sp



## NatHERS V2.31

### Nationwide House Energy Rating Scheme

JobName: <Enter Name>	Job No:	Run No: 1	Climate Zone: 21
Client: Tony Isaacs	Site Address: 3000		
Assessor:			
Date: 31/10/2001	Time: 15:4		Page 4

### Building Data Report

#### Unconditioned Zone

##### EXTERNAL WALLS

Description	Area m <sup>2</sup>	Azimuth deg	Pergola			
			Width m	Height m	Sched. %	Eaves %
Brick Veneer/land: None	10.3	180	0.0	0.0	0	0

##### WINDOWS

Description	Indoor covering	Outdoor covering	Area m <sup>2</sup>	Azl. deg	Pergola			Adjacent Building			Shade by Walls			
					W m	H m	Sch %	W m	H m	F m	O m	L m	R m	Eaves %
Alu single-glazed clear, Al frame, standard	None	None	1.4	180	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0

##### PARTITIONS

Description	Area m <sup>2</sup>	Adjacent zone
Plasterboard on Studs	7.2	Living
Plasterboard on Studs	11.8	Bathrooms
Plasterboard on Studs	7.0	Other
Plasterboard on Studs	13.9	Unknown

##### FLOORS

Description	Area m <sup>2</sup>	Adjacent zone
Timber/linol: None/Cover: Vinyl	14.2	SubFloor

##### CEILINGS

Description	Area m <sup>2</sup>	Above ceiling
Plasterboard/land: None	14.2	RoofSp



## NatHERS V2.31

### Nationwide House Energy Rating Scheme

JobName:	<Enter Name>	Job No:	Run No:	1	Climate Zone:	21
Client:	Tony Isaacs	Site Address:	3000			
Assessor:						
Date:	31/10/2001	Time:	15:4		Page	5

### Building Data Report

#### PERGOLA SCHEDULES\*

No.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0

\* Values indicate sun-blocking percentages: 100 indicates full shade, 0 indicates no shade

#### HEATED AND COOLED ZONES

	Heated	Cooled
Living	Y	Y
Bedroom	Y	Y
Other	Y	Y

#### SETTINGS

Heating thermostat	21.0	Ventilation on temperature [3]	24.0
Heating on/off times	0700/0000	Ventilation off temperature [4]	22.0
Cooling thermostat	26.0	Ventilation A factor [5]	3.0
Cooling on/off times	0700/0000	Ventilation B factor [5]	10.0
Outdoor covering solar [1]	75	Indoor coverings open time	0700
Outdoor covering, outdoor temp [1]	24	Indoor coverings closing time	1800
Indoor covering solar [2]	200		
Indoor covering, outdoor temp [2]	28		

[1] Outdoor window coverings are drawn if total incident solar radiation on window exceeds listed value, and if outdoor temperature exceeds listed value.

[2] Indoor window coverings are drawn if total incident solar radiation on window exceeds listed value, and if outdoor temperature exceeds listed value.

[3] Indoor temperature above which additional ventilation is available.

[4] Indoor temperature below which additional ventilation is switched off.

[5] Additional ventilation rate is calculated as: air changes / hour = A + B (sgt(v)), where v is the terrain-adjusted wind speed.

## 12.3.2 House 2



### NatHERS V2.31

#### Nationwide House Energy Rating Scheme

JobName:	<Enter Name>	Job No:	Ran No:	1	Climate Zone:	21
Client:	Tony Isaacs	Site Address:	3000			
Assessor:						
Date:	14/9/2001	Time:	12:56		Page	5

#### Building Data Report

#### PERGOLA SCHEDULES\*

No.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0

\* Values indicate sun-blocking percentages: 100 indicates full shade; 0 indicates no shade

#### HEATED AND COOLED ZONES

	Heated	Cooled
Living	Y	Y
Bedroom	Y	Y
Other	Y	Y

#### SETTINGS

Heating thermostat	21.0	Ventilation on temperature [3]	24.0
Heating on/off times	0700/0000	Ventilation off temperature [4]	22.0
Cooling thermostat	26.0	Ventilation A factor [5]	3.0
Cooling on/off times	0700/0000	Ventilation B factor [5]	10.0
Outdoor covering solar [1]	75	Indoor coverings open time	0700
Outdoor covering, outdoor temp [1]	24	Indoor coverings closing time	1800
Indoor covering solar [2]	200		
Indoor covering, outdoor temp [2]	28		

- [1]. Outdoor window coverings are drawn if total incident solar radiation on window exceeds listed value, and if outdoor temperature exceeds listed value.
- [2]. Indoor window coverings are drawn if total incident solar radiation on window exceeds listed value, and if outdoor temperature exceeds listed value.
- [3]. Indoor temperature above which additional ventilation is available.
- [4]. Indoor temperature below which additional ventilation is switched off.
- [5]. Additional ventilation rate is calculated as: air changes / hour = A + B sqrt(v), where v is the terrain-adjusted wind speed.



# NatHERS V2.31

## Nationwide House Energy Rating Scheme

**JobName:** House 2 Medium    **Job No:**    **Run No:** 1    **Climate Zone:** 24  
**Client:** Cost Benefit Study A    **Site Address:** Australia Canberra 2600  
**Assessor:**  
**Date:** 18/9/2001    **Time:** 11:2    **Page** 1

### Building Data Report

#### Living Area Zone

##### *EXTERNAL WALLS*

<i>Description</i>	<i>Area</i> <i>m</i> <sup>2</sup>	<i>Azimuth</i> <i>deg</i>	<i>Width</i> <i>m</i>	<i>Height</i> <i>m</i>	<i>Sched.</i> <i>#</i>	<i>Pergola</i>	
						<i>W</i> <i>m</i>	<i>H</i> <i>m</i>
Weatherboard/Insul: None	8.0	0	0.0	0.0	0	0	N
Weatherboard/Insul: None	11.7	90	0.0	0.0	0	0	N
Weatherboard/Insul: None	2.2	135	0.0	0.0	0	0	N
Weatherboard/Insul: None	9.6	180	0.0	0.0	0	0	N
Weatherboard/Insul: None	2.9	270	0.0	0.0	0	0	N

##### *WINDOWS*

<i>Description</i>	<i>Indoor</i> <i>covering</i>	<i>Outdoor</i> <i>covering</i>	<i>Area</i> <i>m</i> <sup>2</sup>	<i>Azi.</i> <i>deg</i>	<i>W</i> <i>m</i>	<i>H</i> <i>m</i>	<i>Sch.</i> <i>#</i>	<i>Pergola</i>		<i>Adjacent</i> <i>Building</i>			<i>Shade by</i> <i>Walls</i>		
								<i>W</i> <i>m</i>	<i>H</i> <i>m</i>	<i>F</i> <i>m</i>	<i>O</i> <i>m</i>	<i>L</i> <i>m</i>	<i>R</i> <i>m</i>	<i>Eaves</i>	
4mm single-glazed clear, Al frame, standard	None	None	0.8	0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	N
4mm single-glazed clear, Al frame, standard	None	None	3.8	0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	N
4mm single-glazed clear, Al frame, standard	None	None	0.8	0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	N
4mm single-glazed clear, Al frame, standard	None	None	5.7	90	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	4.2	2.1	N
4mm single-glazed clear, Al frame, standard	None	None	7.6	90	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	4.2	2.1	N
4mm single-glazed clear, Al frame, standard	None	None	1.4	135	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.9	2.3	N

##### *PARTITIONS*

<i>Description</i>					<i>Area</i> <i>m</i> <sup>2</sup>	<i>Adjacent</i> <i>zone</i>	
						<i>Bedrooms</i>	<i>Other</i>
Plasterboard on Studs					36.7		
Plasterboard on Studs					14.4		
Plasterboard on Studs					41.8		

##### *FLOORS*

<i>Description</i>					<i>Area</i> <i>m</i> <sup>2</sup>	<i>Adjacent</i> <i>zone</i>	
						<i>SubFloor</i>	<i>SubFloor</i>
Timber/Insul: None/Cover: Carpet					34.6		
Timber/Insul: None/Cover: Vinyl					13.4		



# NatHERS V2.31

## Nationwide House Energy Rating Scheme

JobName: House 2 Medium Job No: Run No: 1 Climate Zone: 24

Client: Cost Benefit Study A Site Address: Australia Canberra 2600

Assessor:

Date: 18/9/2001

Time: 11:2

Page 2

### Building Data Report

#### CEILINGS

Description	Area m <sup>2</sup>	Above ceiling
Plasterboard/Insul: None	98.0	RoofSp

#### Bed Rooms Zone

#### EXTERNAL WALLS

Description	Area m <sup>2</sup>	Azimuth deg	Pergola			
			Width m	Height m	Sched. #	Eaves
Weatherboard/Insul: None	3.4	180	0.0	0.0	0	N
Weatherboard/Insul: None	7.1	270	0.0	0.0	0	N

#### WINDOWS

Description	Indoor covering	Outdoor covering	Area m <sup>2</sup>	Azl. deg	Pergola			Adjacent Building			Shade by Walls			
					W m	H m	Sch. #	W m	H m	F m	O m	L m	R m	Eaves
4mm single-glazed clear, Al frame, standard	None	None	3.8	180	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	N
4mm single-glazed clear, Al frame, standard	None	None	7.6	270	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	N

#### PARTITIONS

Description	Area m <sup>2</sup>	Adjacent zone
Plasterboard on Studs	36.7	Living
Plasterboard on Studs	29.0	UnCond
Plasterboard on Studs	9.4	Other
Plasterboard on Studs	14.6	Unknown

#### FLOORS

Description	Area m <sup>2</sup>	Adjacent zone
Timber/Insul: None/Cover: Carpet	42.4	SubFloor

#### CEILINGS

Description	Area m <sup>2</sup>	Above ceiling
Plasterboard/Insul: None	42.4	RoofSp



# NatHERS V2.31

## Nationwide House Energy Rating Scheme

JobName:	House 2 Medium	Job No:	Run No:	1	Climate Zone:	24
Client:	Cost Benefit Study A	Site Address:	Australia	Canberra 2600		
Assessor:						
Date:	18/9/2001	Time:	11:2		Page	4

### Building Data Report

#### Other Conditioned Zone

##### *EXTERNAL WALLS*

Description	Area m <sup>2</sup>	Azimuth deg	Pergola			Eaves
			Width m	Height m	Sched. #	
Weatherboard/Insul: None	3.7	0	0.0	0.0	0	N
Weatherboard/Insul: None	2.6	90	0.0	0.0	0	N
Weatherboard/Insul: None	14.4	270	0.0	0.0	0	N

##### *WINDOWS*

Description	Indoor covering	Outdoor covering	Area m <sup>2</sup>	Azl. deg	Pergola			Adjacent Building			Shade by Walls			
					W m	H m	Sch. #	W m	H m	F m	O m	L m	R m	Eaves
4mm single-glazed clear, Al frame, standard	None	None	0.8	0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.3	0.0	N
4mm single-glazed clear, Al frame, standard	None	None	3.8	0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	N
4mm single-glazed clear, Al frame, standard	None	None	0.8	0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.3	N
4mm single-glazed clear, Al frame, standard	None	None	3.1	270	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	N

##### *PARTITIONS*

Description	Area m <sup>2</sup>	Adjacent zone
Plasterboard on Studs	14.4	Living
Plasterboard on Studs	9.4	Bedrooms
Plasterboard on Studs	17.0	Unknown

##### *FLOORS*

Description	Area m <sup>2</sup>	Adjacent zone
Timber/Insul: None/Cover: Carpet	20.2	SubFloor
Timber/Insul: None/Cover: Ceramic Tiles	7.6	SubFloor

##### *CEILINGS*

Description	Area m <sup>2</sup>	Above ceiling
Plasterboard/Insul: None	27.8	RoofSp



# NatHERS V2.31

## Nationwide House Energy Rating Scheme

JobName: House 2 Medium Job No: Run No: 1 Climate Zone: 24  
Client: Cost Benefit Study A Site Address: Australia Canberra 2600  
Assessor:  
Date: 18/9/2001 Time: 11:2 Page 5

### Building Data Report

#### Unconditioned Zone

##### *EXTERNAL WALLS*

Description	Area m <sup>2</sup>	Azimuth deg	Pergola			Eaves
			Width m	Height m	Sched. #	
Weatherboard/Insul: None	8.0	180	0.0	0.0	0	N
Weatherboard/Insul: None	12.6	270	0.0	0.0	0	N

##### *WINDOWS*

Description	Indoor covering	Outdoor covering	Area m <sup>2</sup>	AzL deg	Pergola			Adjacent Building			Shade by Walls			Eaves
					W m	H m	Sch #	W m	H m	F m	O m	L m	R m	
4mm single-glazed clear, Al frame, standard	None	None	1.1	180	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	N
4mm single-glazed clear, Al frame, standard	None	None	1.8	270	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	N

##### *PARTITIONS*

Description						Area m <sup>2</sup>	Adjacent zone
	Indoor covering	Outdoor covering	Area m <sup>2</sup>	AzL deg	W m		
Plasterboard on Studs						29.0	Bedrooms
Plasterboard on Studs						12.0	Unknown

##### *FLOORS*

Description						Area m <sup>2</sup>	Adjacent zone
	Indoor covering	Outdoor covering	Area m <sup>2</sup>	AzL deg	W m		
Timber/Insul: None/Cover: Vinyl						17.7	SubFloor

##### *CEILINGS*

Description						Area m <sup>2</sup>	Above ceiling
	Indoor covering	Outdoor covering	Area m <sup>2</sup>	AzL deg	W m		
Plasterboard/Insul: None						17.7	RoofSp



# NatHERS V2.31

## Nationwide House Energy Rating Scheme

**JobName:** House 2 Medium    **Job No:**    **Run No:** 1    **Climate Zone:** 24  
**Client:** Cost Benefit Study A    **Site Address:** Australia Canberra 2600  
**Assessor:**  
**Date:** 18/9/2001    **Time:** 11:2    **Page:** 6

### Building Data Report

#### PERGOLA SCHEDULES\*

No.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	100	100	100	100	100	100	100	100	100	100	100	100
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0

#### HEATED AND COOLED ZONES

	Heated	Cooled
Living	Y	Y
Bedroom	Y	Y
Other	Y	Y

#### SETTINGS

Heating thermostat	21.0	Ventilation on temperature [3]	24.0
Heating on/off times	0700/0000	Ventilation off temperature [4]	22.0
Cooling thermostat	26.0	Ventilation A factor [5]	3.0
Cooling on/off times	0700/0000	Ventilation B factor [5]	10.0
Outdoor covering solar [1]	75	Indoor coverings open time	0700
Outdoor covering, outdoor temp [1]	24	Indoor coverings closing time	1800
Indoor covering solar [2]	200		
Indoor covering, outdoor temp [2]	28		

[1]. Outdoor window coverings are drawn if total incident solar radiation on window exceeds listed value, and if outdoor temperature exceeds listed value.

[2]. Indoor window coverings are drawn if total incident solar radiation on window exceeds listed value, and if outdoor temperature exceeds listed value.

[3]. Indoor temperature above which additional ventilation is available.

[4]. Indoor temperature below which additional ventilation is switched off.

[5]. Additional ventilation rate is calculated as: air changes / hour = A + B sqrt(v), where v is the terrain-adjusted wind speed.

### 12.3.3 House 3



## NatHERS V2.31

### Nationwide House Energy Rating Scheme

JobName:	House 3 Large 2 Storey	Job No:	Run No:	1	Climate Zone:	24
Client:	Cost Benefit Study A	Site Address:	Australia Canberra 2600	ACT		
Assessor:						
Date:	14/9/2001	Time:	13:8		Page	1

### Energy Rating Report

Description: Large 2 Storey House for Cost Benefit Study

### RATED ENERGY REQUIREMENTS\*

Heating	Cooling (Sensible)	Cooling (Latent)	Total Energy	
675.3	191.3	3.2	869.8	MJ/m <sup>2</sup> .annum
187.6	53.1	0.9	241.6	kWh/m <sup>2</sup> .annum

\* These energy requirements have been calculated using a standard set of occupant behaviours and so do not necessarily represent the usage patterns or lifestyle of the intended occupants. They should be used solely for the purposes of rating the building. They should not be used to infer actual energy consumption or running costs. The settings used for this simulation are shown in the Building Data Report.

## 0 STARS

### SUMMARY

#### Total Areas

Conditioned floor area (m <sup>2</sup> )	202.8
Total floor area (m <sup>2</sup> )	227.9
Total wall area (m <sup>2</sup> )	189.3
Total window area (m <sup>2</sup> )	54.0

#### Ventilation and infiltration

Open fireplace w/o damper	N
Weather stripping	N
Vented downlights	N
Exhaust fans w/o damper	N
Entrance open to living area	Y

#### Construction and Insulation\*\*

External wall type	Weatherboard
Internal wall type	Plasterboard on Studs
Floor type	Timber
Window type	Single glazed, clear
Roof space present	Y
Roof type	Roofing Tiles
Roof insulation (m <sup>2</sup> .K/W)	None
Ceiling insulation (m <sup>2</sup> .K/W)	None
Wall insulation (m <sup>2</sup> .K/W)	None
Floor insulation (m <sup>2</sup> .K/W)	None
External wall colour	Medium
Roof colour	Medium
Eaves width (mm)	0
Eaves offset (mm)	0

Open fireplace w/o damper	N
Weather stripping	N
Vented downlights	N
Exhaust fans w/o damper	N
Entrance open to living area	Y

Vented skylights	N
Fixed wall or ceiling vents	N
Roofspace ventilation	Standard
Sub-floor space ventilation	Enclosed
Ceiling fans	

Living	N
Bedrooms	N
Other conditioned	N

#### Other

Terrain category	Suburban
------------------	----------

#### Hot Water System

\*\* Where there are two or more construction types for a given element (e.g. external wall), only the one with the greatest area is listed here. Refer to Building Data Report for more details.



# NatHERS V2.31

## Nationwide House Energy Rating Scheme

**JobName:** House 3 Large 2 Storey **Job No:** Run No: 1 **Climate Zone:** 24  
**Client:** Cost Benefit Study A **Site Address:** Australia Canberra 2600  
**Assessor:**  
**Date:** 14/9/2001 **Time:** 13:8 **Page:** 1

### Building Data Report

#### Living Area Zone

##### *EXTERNAL WALLS*

Description	Area m <sup>2</sup>	Azim. deg	Width m	Height m	Pergola		Eaves
					Sched. θ		
Weatherboard/Insul: None	20.1	0	0.0	0.0	0		N
Weatherboard/Insul: None	35.8	90	0.0	0.0	0		N
Weatherboard/Insul: None	31.1	180	0.0	0.0	0		N
Weatherboard/Insul: None	40.8	270	0.0	0.0	0		N

##### *WINDOWS*

Description	Indoor covering	Outdoor covering	Area m <sup>2</sup>	AzL deg	Pergola			Adjacent Building				Shade by Walls		
					W m	H m	Sch. θ	W m	H m	F m	O m	L m	R m	Eaves
4mm single-glazed clear, Al frame, standard	None	None	1.9	0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	2.8	N
4mm single-glazed clear, Al frame, standard	None	None	3.8	0	0.0	0.0	0	0.0	0.0	0.0	0.0	1.0	0.0	N
4mm single-glazed clear, Al frame, standard	None	None	1.3	0	0.0	0.0	0	0.0	0.0	0.0	0.0	2.0	0.0	N
4mm single-glazed clear, Al frame, standard	None	None	3.8	0	0.0	0.0	0	0.0	0.0	0.0	0.0	2.5	0.0	N
4mm single-glazed clear, Al frame, standard	None	None	10.1	90	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	N
4mm single-glazed clear, Al frame, standard	None	None	3.8	90	0.0	0.0	0	0.0	0.0	0.0	0.0	2.1	0.0	N
4mm single-glazed clear, Al frame, standard	None	None	3.8	270	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	N
4mm single-glazed clear, Al frame, standard	None	None	1.8	180	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	N

##### *PARTITIONS*

Description	Area m <sup>2</sup>	Adjacent zone
Plasterboard on Studs	14.6	Bedrooms
Plasterboard on Studs	9.8	Other
Plasterboard on Studs	46.2	UnCond
Plasterboard on Studs	27.1	Unknown

##### *FLOORS*

Description	Area m <sup>2</sup>	Adjacent zone



## NatHERS V2.31

### Nationwide House Energy Rating Scheme

JobName: House 3 Large 2 Storey Job No: Run No: 1 Climate Zone: 24

Client: Cost Benefit Study A Site Address: Australia Canberra 2600

Assessor:

Date: 14/9/2001

Time: 13:8

Page 2

### Building Data Report

Timber/Insul: None/Cover: Carpet	116.8	SubFloor
Timber/Insul: None/Cover: Vinyl	12.1	SubFloor



## NatHERS V2.31

### Nationwide House Energy Rating Scheme

JobName: House 3 Large 2 Storey Job No: Run No: 1 Climate Zone: 24

Client: Cost Benefit Study A Site Address: Australia Canberra 2600

Assessor:

Date: 14/9/2001

Time: 13:8

Page 3

### Building Data Report

#### CEILINGS

Description	Area m <sup>2</sup>	Above ceiling
for Ground Floor zones	49.8	Bedrooms
for Ground Floor zones	24.1	Other
Plasterboard/Insul: None	55.0	RoofSp



# NatHERS V2.31

## Nationwide House Energy Rating Scheme

**JobName:** House 3 Large 2 Storey **Job No:** 1 **Run No:** 1 **Climate Zone:** 24  
**Client:** Cost Benefit Study A **Site Address:** Australia Canberra 2600  
**Assessor:**  
**Date:** 14/9/2001 **Time:** 13:8 **Page:** 4

### Building Data Report

#### Bed Rooms Zone

##### *EXTERNAL WALLS*

Description	Area m <sup>2</sup>	Azimuth deg	Pergola			Eaves
			Width m	Height m	Sched. #	
Weatherboard/Insul: None	9.7	90	0.0	0.0	0	N
Weatherboard/Insul: None	13.5	180	0.0	0.0	0	N
Weatherboard/Insul: None	7.2	270	0.0	0.0	0	N

##### *WINDOWS*

Description	Indoor covering	Outdoor covering	Area m <sup>2</sup>	Azim. deg	Pergola			Adjacent Building			Shade by Walls			
					W m	H m	Sch #	W m	H m	F m	O m	L m	R m	Eaves
4mm single-glazed clear, Al frame, standard	None	None	7.6	90	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	N
4mm single-glazed clear, Al frame, standard	None	None	3.8	180	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	N

##### *PARTITIONS*

Description	Area m <sup>2</sup>	Adjacent zone
Plasterboard on Studs	14.5	Living
Plasterboard on Studs	8.9	Other
Plasterboard on Studs	5.5	UnCond
Plasterboard on Studs	15.1	Unknown

##### *FLOORS*

Description	Area m <sup>2</sup>	Adjacent zone
for 1st Storey	49.8	Living

##### *CEILINGS*

Description	Area m <sup>2</sup>	Above ceiling
Plasterboard/Insul: None	49.8	RoofSp



# NatHERS V2.31

## Nationwide House Energy Rating Scheme

JobName: House 3 Large 2 Storey Job No: Run No: 1 Climate Zone: 24  
 Client: Cost Benefit Study A Site Address: Australia Canberra 2600  
 Assessor:  
 Date: 14/9/2001 Time: 13:8 Page: 5

### Building Data Report

#### Other Conditioned Zone

##### EXTERNAL WALLS

Description	Area m <sup>2</sup>	Azimuth deg	Pergola			Sched. #	Eaves
			Width m	Height m	Shade		
Weatherboard/Insul: None	7.1	0	0.0	0.0	0	0	N
Weatherboard/Insul: None	11.0	90	0.0	0.0	0	0	N
Weatherboard/Insul: None	8.4	270	0.0	0.0	0	0	N

##### WINDOWS

Description	Indoor covering	Outdoor covering	Area m <sup>2</sup>	AzL deg	Pergola			Adjacent Building			Shade by Walls			
					W m	H m	Sch #	W m	H m	F m	O m	L m	R m	Eaves
4mm single-glazed clear, Al frame, standard	None	None	3.8	0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	Y
4mm single-glazed clear, Al frame, standard	None	None	1.9	0	0.0	0.0	0	0.0	0.0	0.0	0.0	2.8	0.0	Y
4mm single-glazed clear, Al frame, standard	None	None	3.1	90	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	N

##### PARTITIONS

Description	Area m <sup>2</sup>	Adjacent zone
Plasterboard on Studs	9.8	Living
Plasterboard on Studs	8.9	Bedrooms
Plasterboard on Studs	11.0	Unknown

##### FLOORS

Description	Area m <sup>2</sup>	Adjacent zone
for 1st Storey	24.1	Living

##### CEILINGS

Description	Area m <sup>2</sup>	Above ceiling
Plasterboard/Insul: None	24.1	RoofSp



# NatHERS V2.31

## Nationwide House Energy Rating Scheme

JobName: House 3 Large 2 Storey Job No: 1 Climate Zone: 24  
 Client: Cost Benefit Study A Site Address: Australia Canberra 2600  
 Assessor:  
 Date: 14/9/2001 Time: 13:8 Page: 6

### Building Data Report

#### Unconditioned Zone

##### **EXTERNAL WALLS**

Description	Area m <sup>2</sup>	Azimuth deg	Pergola				Eaves
			Width m	Height m	Sched. #		
Weatherboard/Insul: None	4.6	270	0.0	0.0	0		N

##### **WINDOWS**

Description	Indoor covering	Outdoor covering	Area m <sup>2</sup>	Azl. deg	Pergola			Adjacent Building			Shade by Walls			
					W m	H m	Sch. #	W m	H m	F m	O m	L m	R m	Eaves
4mm single-glazed clear, Al frame, standard	None	None	3.7	270	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	N

##### **PARTITIONS**

Description						Area m <sup>2</sup>	Adjacent zone	
Plasterboard on Studs						46.2	Living	
Plasterboard on Studs						3.5	Bedrooms	
Plasterboard on Studs						19.2	Unknown	

##### **FLOORS**

Description						Area m <sup>2</sup>	Adjacent zone	
Timber/Insul: None/Cover: Vinyl						28.1	SubFloor	

##### **CEILINGS**

Description						Area m <sup>2</sup>	Above ceiling	
Plasterboard/Insul: None						25.1	RoofSp	



# NatHERS V2.31

## Nationwide House Energy Rating Scheme

JobName: House 3 Large 2 Storey Job No: Run No: 1 Climate Zone: 24  
 Client: Cost Benefit Study A Site Address: Australia Canberra 2600  
 Assessor:  
 Date: 14/9/2001 Time: 13:8 Page: 7

### Building Data Report

#### PERGOLA SCHEDULES\*

No.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	100	100	100	100	100	100	100	100	100	100	100	100
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0

\* Values indicate sun-blocking percentages. 100 indicates full shade; 0 indicates no shade.

#### HEATED AND COOLED ZONES

	Heated	Cooled
Living	Y	Y
Bedroom	Y	Y
Other	Y	Y

#### SETTINGS

Heating thermostat	21.0	Ventilation on temperature [3]	24.0
Heating on/off times	0700/0000	Ventilation off temperature [4]	22.0
Cooling thermostat	26.0	Ventilation A factor [5]	3.0
Cooling on/off times	0700/0000	Ventilation B factor [5]	10.0
Outdoor covering solar [1]	75	Indoor coverings open time	0700
Outdoor covering, outdoor temp [1]	24	Indoor coverings closing time	1800
Indoor covering solar [2]	200		
Indoor covering, outdoor temp [2]	28		

[1]. Outdoor window coverings are drawn if total incident solar radiation on window exceeds listed value, and if outdoor temperature exceeds listed value.

[2]. Indoor window coverings are drawn if total incident solar radiation on window exceeds listed value, and if outdoor temperature exceeds listed value.

[3]. Indoor temperature above which additional ventilation is available.

[4]. Indoor temperature below which additional ventilation is switched off.

[5]. Additional ventilation rate is calculated as: air changes / hour = A + B sqrt(v), where v is the terrain-adjusted wind speed.

## 12.3.4 House 4



### NatHERS V2.31

Nationwide House Energy Rating Scheme

JobName:	House 4 - Row House	Job No:		Run No:	1	Climate Zone:	24
Client:	Cost Benefit	Site Address:	Canberra 2600		ACT		
Assessor:							
Date:	1/11/2001	Time:	15:13			Page	1

### Energy Rating Report

Description: 2 Storey Row House for Cost Benefit Study

### RATED ENERGY REQUIREMENTS\*

Heating	Cooling (Sensible)	Cooling (Latent)	Total Energy	
592.2	84.5	2.2	678.9	MJ/m <sup>2</sup> .annum
164.5	23.5	0.6	188.6	kWh/m <sup>2</sup> .annum

\* These energy requirements have been calculated using a standard set of occupant behaviours and so do not necessarily represent the usage patterns or lifestyle of the intended occupants. They should be used solely for the purposes of rating the building. They should not be used to infer actual energy consumption or running costs. The settings used for this simulation are shown in the Building Data Report.

# 0 STARS

### SUMMARY

<i>Total Areas</i>		<i>Ventilation and infiltration</i>	
<b>Conditioned floor area (m<sup>2</sup>)</b>	83.9	Open fireplace w/o damper	N
Total floor area (m <sup>2</sup> )	93.8	Weather stripping	N
Total wall area (m <sup>2</sup> )	28.2	Vented downlights	N
Total window area (m <sup>2</sup> )	21.1	Exhaust fans w/o damper	N
<i>Construction and insulation**</i>		Entrance open to living area	Y
External wall type	Weatherboard	Vented skylights	N
Internal wall type	Plasterboard on Studs	Fixed wall or ceiling vents	N
Floor type	Timber	Roofspace ventilation	Standard
Window type	Single glazed, clear	Sub-floor space ventilation	Enclosed
Roof space present	Y	Ceiling fans	
Roof type	Roofing Tiles	Living	N
Roof insulation (m <sup>2</sup> .K/W)	None	Bedrooms	N
Ceiling insulation (m <sup>2</sup> .K/W)	None	Other conditioned	N
Wall insulation (m <sup>2</sup> .K/W)	None	<i>Other</i>	
Floor insulation (m <sup>2</sup> .K/W)	None	Terrain category	Suburban
External wall colour	Medium	<i>Hot Water System</i>	
Roof colour	Medium		
Eaves width (mm)	0		
Eaves offset (mm)	0		

\*\* Where there are two or more construction types for a given element (e.g. external wall), only the one with the greatest area is listed here. Refer to Building Data Report for more details.



## NatHERS V2.31

### Nationwide House Energy Rating Scheme

JobName:	House 4 - Row House	Job No:	Run No:	1	Climate Zone:	24
Client:	Cost Benefit	Site Address:	Canberra 2600			
Assessor:						
Date:	1/11/2001	Time:	15:13		Page:	1

### Building Data Report

#### Living Area Zone

##### EXTERNAL WALLS

Description	Area m <sup>2</sup>	Azimuth deg	Pergola			Sched. %	Eaves
			Width m	Height m	Schd.		
Weatherboard/Inslv: None	8.2	0	0.0	0.0	0	0	N
Weatherboard/Inslv: None	5.0	180	0.0	0.0	0	0	N

##### WINDOWS

Description	Indoor covering	Outdoor covering	Area m <sup>2</sup>	Azl. deg	Pergola			Adjacent Building			Shade by Walls		
					W m	H m	Schd. %	W m	H m	O m	L m	R m	Eaves
4mm single-glazed clear, Al frame, standard	None	None	10.3	180	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	N
4mm single-glazed clear, Al frame, standard	None	None	1.1	0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	N

##### PARTITIONS

Description	Area m <sup>2</sup>	Adjacent zone
Plasterboard on Studs	7.9	Bedrooms
Plasterboard on Studs	19.2	Other
Plasterboard on Studs	38.9	UnCond.
AAC Block, 100mm	11.9	Neighbour

##### FLOORS

Description	Area m <sup>2</sup>	Adjacent zone
Timber/Treat: None/Cover: Carpet	29.3	SubFloor
Timber/Treat: None/Cover: Vinyl	7.6	SubFloor

##### CEILINGS

Description	Area m <sup>2</sup>	Above ceiling
For Ground Floor zones	18.3	Bedrooms
For Ground Floor zones	18.5	Other



## NatHERS V2.31

### Nationwide House Energy Rating Scheme

JobName:	House 4 - Row House	Job No:	Run No:	1	Climate Zone:	24
Client:	Cost Benefit	Site Address:	Canberra 2600			
Assessor:						
Date:	1/11/2001	Time:	15:13		Page:	2

### Building Data Report

#### Bed Rooms Zone

##### *EXTERNAL WALLS*

Description	Area m <sup>2</sup>	Azimuth deg	Pergola				Sched. %	Eaves
			Width m	Height m	F	O		
Weatherboard/Insul. None	6.0	180	0.0	0.0	0	0.0	0	0

##### *WINDOWS*

Description	Indoor covering	Outdoor covering	Area m <sup>2</sup>	Azi. deg	Pergola			Adjacent Building			Shade by Walls			Eaves
					W m	H m	Sch. %	W m	H m	F m	O m	L m	R m	
4mm single-glazed clear, Al frame, standard	None	None	7.6	180	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	N

##### *PARTITIONS*

Description					Area m <sup>2</sup>	Adjacent zone
Plasterboard on Studs					7.9	Living
Plasterboard on Studs					2.3	Other
Plasterboard on Studs					10.3	UnCond
Plasterboard on Studs					5.3	Unknown
AAC Block, 100mm					8.8	Neighbo

##### *FLOORS*

Description	Area m <sup>2</sup>	Adjacent zone
For 1st Storey	18.3	Living

##### *CEILINGS*

Description	Area m <sup>2</sup>	Above ceiling
Plasterboard/Insul. None	18.3	RoofSp



# NatHERS V2.31

## Nationwide House Energy Rating Scheme

JobName:	House 4 - Row House	Job No:	Run No:	1	Climate Zone:	24
Client:	Cost Benefit	Site Address:	Canberra 2600			
Assessor:						
Date:	1/11/2001	Time:	15:13		Page	3

### Building Data Report

#### Other Conditioned Zone

##### EXTERNAL WALLS

Description	Area m <sup>2</sup>	Azimuth deg	Pergola			Eaves
			Width m	Height m	Sched. #	
Weatherboard/Insul: None	9.0	0	0.0	0.0	0	N

##### WINDOWS

Description	Indoor covering	Outdoor covering	Area m <sup>2</sup>	Azl. deg	Pergola			Adjacent Building			Shade by Walls			
					W m	H m	Sch #	W m	H m	F m	O m	L m	R m	Eaves
4mm single-glazed clear, Al frame, standard	None	None	2.2	0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	N

##### PARTITIONS

Description	Area m <sup>2</sup>	Adjacent zone
Plasterboard on Studs	19.2	Living
Plasterboard on Studs	2.3	Bedrooms
Plasterboard on Studs	5.0	UnCond
Plasterboard on Studs	12.2	Unknown
AAC Block, 100mm	7.7	Neighbour

##### FLOORS

Description	Area m <sup>2</sup>	Adjacent zone
for 1st Storey	18.5	Living
for 1st Storey	10.4	UnCond

##### CEILINGS

Description	Area m <sup>2</sup>	Above ceiling
Plasterboard/Insul: None	28.9	RoofSp

### Unconditioned Zone

##### PARTITIONS

Description	Area m <sup>2</sup>	Adjacent zone
Plasterboard on Studs	38.9	Living
Plasterboard on Studs	10.3	Bedrooms
Plasterboard on Studs	5.0	Other
Plasterboard on Studs	5.9	Unknown
AAC Block, 100mm	5.7	Neighbour

##### FLOORS

Description	Area m <sup>2</sup>	Adjacent zone
Timber/Insul: None/Cover: Vinyl	9.9	SubFloor

##### CEILINGS

Description	Area m <sup>2</sup>	Above ceiling
for Ground Floor zones	10.4	Other



## NatHERS V2.31

### Nationwide House Energy Rating Scheme

Job Name:	House 4 - Row House	Job No.:	Run No.: 1	Climate Zone:	24
Client:	Cost Benefit	Site Address:	Canberra 2600		
Assessor:					
Date:	1/11/2001	Time:	15:13	Page:	5

### Building Data Report

#### PERGOLA SCHEDULES\*

No.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	100	100	100	100	100	100	100	100	100	100	100	100
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0

#### HEATED AND COOLED ZONES

	Heated	Cooled
Living	Y	Y
Bedroom	Y	Y
Other	Y	Y

#### SETTINGS

Heating thermostat	21.0	Ventilation on temperature [3]	24.0
Heating on/off times	0700/0000	Ventilation off temperature [4]	22.0
Cooling thermostat	26.0	Ventilation A factor [5]	3.0
Cooling on/off times	0700/0000	Ventilation B factor [5]	10.0
Outdoor covering solar [1]	75	Indoor coverings open time	0700
Outdoor covering, outdoor temp [1]	24	Indoor coverings closing time	1800
Indoor covering solar [2]	200		
Indoor covering, outdoor temp [2]	28		

[1] Outdoor window coverings are drawn if total incident solar radiation on window exceeds listed value, and if outdoor temperature exceeds listed value.

[2] Indoor window coverings are drawn if total incident solar radiation on window exceeds listed value, and if outdoor temperature exceeds listed value.

[3] Indoor temperature above which additional ventilation is available.

[4] Indoor temperature below which additional ventilation is switched off.

[5] Additional ventilation rate is calculated as: air changes / hour = A + B sqrt(v), where v is the tennis-adjusted wind speed.

### 12.3.5 House 5



## NatHERS V2.31

### Nationwide House Energy Rating Scheme

JobName:	House 5 Qldr	Job No:		Run No:	1	Climate Zone:	24
Client:	Cost Benefit	Site Address:	Canberra 2600		ACT		
Assessor:							
Date:	14/9/2001	Time:	13:30			Page	1

### Energy Rating Report

Description: GENERIC QUEENSLANDER HOUSE FOR COST BENEFIT STUDY

### RATED ENERGY REQUIREMENTS\*

Heating	Cooling (Sensible)	Cooling (Latent)	Total Energy	
846.0	282.7	5.8	1134.4	MJ/m <sup>2</sup> .annum
235.0	78.5	1.6	315.1	kWh/m <sup>2</sup> .annum

\* These energy requirements have been calculated using a standard set of occupant behaviours and so do not necessarily represent the usage patterns or lifestyle of the intended occupants. They should be used solely for the purposes of rating the building. They should not be used to infer actual energy consumption or running costs. The settings used for this simulation are shown in the Building Data Report.

## 0 STARS

### SUMMARY

<i>Total Areas</i>		<i>Ventilation and infiltration</i>	
Conditioned floor area (m <sup>2</sup> )	138.2	Open fireplace w/o damper	N
Total floor area (m <sup>2</sup> )	149.5	Weather stripping	N
Total wall area (m <sup>2</sup> )	117.8	Vented downlights	N
Total window area (m <sup>2</sup> )	54.3	Exhaust fans w/o damper	N
<i>Construction and Insulation**</i>		<i>Entrance open to living area</i>	
External wall type	Weatherboard	Vented skylights	N
Internal wall type	Plasterboard on Studs	Fixed wall or ceiling vents	N
Floor type	Timber	Roofspace ventilation	Standard
Window type	Single glazed, clear	Sub-floor space ventilation	Enclosed
Roof space present	Y	Ceiling fans	
Roof type	Roofing Tiles	Living	N
Roof insulation (m <sup>2</sup> .K/W)	None	Bedrooms	N
Ceiling insulation (m <sup>2</sup> .K/W)	None	Other conditioned	N
Wall insulation (m <sup>2</sup> .K/W)	None		
Floor insulation (m <sup>2</sup> .K/W)	None	<i>Other</i>	
External wall colour	Medium	Terrain category	Suburban
Roof colour	Medium	<i>Hot Water System</i>	
Eaves width (mm)	0		
Eaves offset (mm)	0		

\*\* Where there are two or more construction types for a given element (e.g. external wall), only the one with the greatest area is listed here. Refer to Building Data Report for more details.



# NatHERS V2.31

## Nationwide House Energy Rating Scheme

JobName:	House 5 Qldr	Job No:	Run No:	1	Climate Zone:	24
Client:	Cost Benefit	Site Address:	Camberra 2600			
Assessor:						
Date:	14/9/2001	Time:	13:30		Page	1

### Building Data Report

#### Living Area Zone

##### EXTERNAL WALLS

Description	Area m <sup>2</sup>	Azimuth deg	Pergola			Eaves
			Width m	Height m	Sched. #	
Weatherboard/Insul: None	13.6	0	0.0	0.0	0	N
Weatherboard/Insul: None	10.7	180	0.0	0.0	0	N
Weatherboard/Insul: None	12.2	270	0.0	0.0	0	N

##### WINDOWS

Description	Indoor covering	Outdoor covering	Area m <sup>2</sup>	Azl. deg	Pergola		Adjacent Building				Shade by Walls			
					W m	H m	Sch #	W m	H m	F m	O m	L m	R m	Eaves
4mm single-glazed clear, Al frame, standard	None	None	8.5	0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	N
4mm single-glazed clear, Al frame, standard	None	None	1.8	0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	3.5	N
4mm single-glazed clear, Al frame, standard	None	None	2.9	270	0.0	0.0	0	0.0	0.0	0.0	0.0	2.7	0.0	N
4mm single-glazed clear, Al frame, standard	None	None	2.2	270	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	N
4mm single-glazed clear, Al frame, standard	None	None	7.7	180	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	N

##### PARTITIONS

Description	Area m <sup>2</sup>	Adjacent zone
Plasterboard on Studs	7.9	
Plasterboard on Studs	9.1	UnCond Bedrooms

##### FLOORS

Description	Area m <sup>2</sup>	Adjacent zone
Timber/Insul: None/Cover: Carpet	37.5	SubFloor
Timber/Insul: None/Cover: Vinyl	12.5	SubFloor

##### CEILINGS

Description	Area m <sup>2</sup>	Above ceiling
Plasterboard/Insul: None	53.0	RoofSp



# NatHERS V2.31

## Nationwide House Energy Rating Scheme

JobName:	House 5 Qldr	Job No:	Run No:	1	Climate Zone:	24
Client:	Cost Benefit	Site Address:	Camberwell 2600			
Assessor:						
Date:	14/9/2001	Time:	13:30		Page:	2

### Building Data Report

#### Bed Rooms Zone

##### *EXTERNAL WALLS*

Description	Area m <sup>2</sup>	Azimuth deg	Pergola			Eaves
			Width m	Height m	Sched. θ	
Weatherboard/Insul: None	24.8	0	0.0	0.0	0	N
Weatherboard/Insul: None	16.8	90	0.0	0.0	0	N
Weatherboard/Insul: None	8.3	180	0.0	0.0	0	N
Weatherboard/Insul: None	0.8	270	0.0	0.0	0	N

##### *WINDOWS*

Description	Indoor covering	Outdoor covering	Area m <sup>2</sup>	Azi. deg	Pergola			Adjacent Building			Shade by Walls			
					W m	H m	Sch. #	W m	H m	F m	O m	L m	R m	Eaves
4mm single-glazed clear, Al frame, standard	None	None	10.6	0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	N
4mm single-glazed clear, Al frame, standard	None	None	2.3	0	0.0	0.0	0	0.0	0.0	0.0	0.0	2.8	0.0	N
4mm single-glazed clear, Al frame, standard	None	None	5.0	90	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	N
4mm single-glazed clear, Al frame, standard	None	None	1.8	180	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	N

##### *PARTITIONS*

Description	Area m <sup>2</sup>	Adjacent zone
Plasterboard on Studs	9.1	Living
Plasterboard on Studs	31.4	Unknown
Plasterboard on Studs	29.8	Other

##### *FLOORS*

Description	Area m <sup>2</sup>	Adjacent zone
Timber/Insul: None/Cover: Carpet	69.5	SubFloor
Timber/Insul: None/Cover: Ceramic Tiles	6.6	SubFloor

##### *CEILINGS*

Description	Area m <sup>2</sup>	Above ceiling
Plasterboard/Insul: None	80.7	RoofSpace



# NatHERS V2.31

## Nationwide House Energy Rating Scheme

JobName:	House 5 Qldr	Job No:		Run No:	1	Climate Zone:	24
Client:	Cost Benefit	Site Address:	Canberra 2600				
Assessor:							
Date:	14/9/2001	Time:	13:30			Page	3

### Building Data Report

#### Other Conditioned Zone

##### *EXTERNAL WALLS*

Description	Area m <sup>2</sup>	Azimuth deg	Pergola			
			Width m	Height m	Sched. #	Eaves
Weatherboard/Insul: None	7.6	180	0.0	0.0	0	N

##### *WINDOWS*

Description	Indoor covering	Outdoor covering	Area m <sup>2</sup>	Azl. deg	Pergola			Adjacent Building			Shade by Walls			
					W m	H m	Sch. #	W m	H m	F m	O m	L m	R m	Eaves
4mm single-glazed clear, Al frame, standard	None	None	1.9	180	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	1.5	%
4mm single-glazed clear, Al frame, standard	None	None	1.9	180	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.8	%
4mm single-glazed clear, Al frame, standard	None	None	5.7	180	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	%
4mm single-glazed clear, Al frame, standard	None	None	1.9	180	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.4	%

##### *PARTITIONS*

Description					Area m <sup>2</sup>	Adjacent zone
	Plasterboard on Studs					
Plasterboard on Studs					29.8	Bedrooms
Plasterboard on Studs					8.6	UnCond

##### *FLOORS*

Description	Area m <sup>2</sup>	Adjacent zone
Tinber/Insul: None/Cover: Carpet	12.1	SubFloor

##### *CEILINGS*

Description	Area m <sup>2</sup>	Above ceiling
Plasterboard/Insul: None	12.8	RoofSp



# NatHERS V2.31

## Nationwide House Energy Rating Scheme

JobName:	House 5 Qldr	Job No:	Ran No:	1	Climate Zone:	24
Client:	Cost Benefit	Site Address:	Canberra 2600			
Assessor:						
Date:	14/9/2001	Time:	13:30		Page	4

### Building Data Report

#### Unconditioned Zone

##### *EXTERNAL WALLS*

Description	Area m <sup>2</sup>	Azimuth deg	Pergola			Sched. #	Eaves
			Width m	Height m	Length m		
Weatherboard/Insul: None	5.0	90	0.0	0.0	0.0	0	N
Weatherboard/Insul: None	8.9	180	0.0	0.0	0.0	0	N

##### *WINDOWS*

Description	Indoor covering	Outdoor covering	Area m <sup>2</sup>	AzL deg	Pergola			Adjacent Building			Shade by Walls			
					W m	H m	Sch. #	W m	H m	F m	O m	L m	R m	Eaves
4mm single-glazed clear, Al frame, standard	None	None	2.3	180	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	N
4mm single-glazed clear, Al frame, standard	None	None	0.7	90	0.0	0.0	0	1.4	2.7	8.8	1.4	8.8	0.0	N

##### *PARTITIONS*

Description	Area m <sup>2</sup>	Adjacent zone
Plasterboard on Studs	8.6	
Plasterboard on Studs	7.9	Other Living

##### *FLOORS*

Description	Area m <sup>2</sup>	Adjacent zone
Timber/Insul: None/Cover: Vinyl	11.3	SubFloor

##### *CEILINGS*

Description	Area m <sup>2</sup>	Above ceiling
Plasterboard/Insul: None	12.0	RoofSp



# NatHERS V2.31

## Nationwide House Energy Rating Scheme

Job Name:	House 5 Qldr	Job No.:	Run No.:	Climate Zone:
Client:	Cost Benefit	Site Address:	Canberra 2600	
Assessor:				
Date:	14/9/2001	Time:	13:30	Page 5

### Building Data Report

#### PERGOLA SCHEDULES\*

No.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	100	100	100	100	100	100	100	100	100	100	100	100
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0

\* Values indicate sun-blocking percentages: 100 indicates full shade; 0 indicates no shade

#### HEATED AND COOLED ZONES

	Heated	Cooled
Living	Y	Y
Bedroom	Y	Y
Other	Y	Y

#### SETTINGS

Heating thermostat	21.0	Ventilation on temperature [3]	24.0
Heating on/off times	0700/0000	Ventilation off temperature [4]	22.0
Cooling thermostat	26.0	Ventilation A factor [5]	3.0
Cooling on/off times	0700/0000	Ventilation B factor [5]	10.0
Outdoor covering solar [1]	75	Indoor coverings open time	0700
Outdoor covering, outdoor temp [1]	24	Indoor coverings closing time	1800
Indoor covering solar [2]	200		
Indoor covering, outdoor temp [2]	28		

[1]. Outdoor window coverings are drawn if total incident solar radiation on window exceeds listed value, and if outdoor temperature exceeds listed value.

[2]. Indoor window coverings are drawn if total incident solar radiation on window exceeds listed value, and if outdoor temperature exceeds listed value.

[3]. Indoor temperature above which additional ventilation is available.

[4]. Indoor temperature below which additional ventilation is switched off.

[5]. Additional ventilation rate is calculated as: air changes / hour = A + B sqft(v), where v is the terrain-adjusted wind speed.

### 12.3.6 House 6



### NatHERS V2.31

#### Nationwide House Energy Rating Scheme

JobName:	HOUSE 6 SOLAR	Job No:		Run No:	1	Climate Zone:	24
Client:	SEAV AGO ABCB	Site Address:		AUSTRALIA CANBERRA 2601		ACT	
<b>Assessor:</b>							
Date:	14/9/2001	Time:	13:43			Page	1

#### Energy Rating Report

Description: GENERIC SOLAR HOUSE FOR COST BENEFIT STUDY

#### RATED ENERGY REQUIREMENTS\*

Heating	Cooling (Sensible)	Cooling (Latent)	Total Energy	
724.5	277.1	4.9	1006.5	MJ/m <sup>2</sup> .annum
201.2	77.0	1.4	279.6	kWh/m <sup>2</sup> .annum

\* These energy requirements have been calculated using a standard set of occupant behaviours and so do not necessarily represent the usage patterns or lifestyle of the intended occupants. They should be used solely for the purposes of rating the building. They should not be used to infer actual energy consumption or running costs. The settings used for this simulation are shown in the Building Data Report.

# 0 STARS

#### SUMMARY

<i>Total Areas</i>		<i>Ventilation and infiltration</i>	
Conditioned floor area (m <sup>2</sup> )	151.8	Open fireplace w/o damper	N
Total floor area (m <sup>2</sup> )	161.2	Weather stripping	N
Total wall area (m <sup>2</sup> )	88.2	Vented downlights	N
Total window area (m <sup>2</sup> )	55.4	Exhaust fans w/o damper	N
<i>Construction and Insulation**</i>		<i>Entrance open to living area</i>	
External wall type	Weatherboard	Vented skylights	N
Internal wall type	Plasterboard on Studs	Fixed wall or ceiling vents	N
Floor type	Timber	Roofspace ventilation	Standard
Window type	Single glazed, clear	Sub-floor space ventilation	Enclosed
Roof space present	Y	Ceiling fans	
Roof type	Roofing Tiles	Living	N
Roof insulation (m <sup>2</sup> .K/W)	None	Bedrooms	N
Ceiling insulation (m <sup>2</sup> .K/W)	None	Other conditioned	N
Wall insulation (m <sup>2</sup> .K/W)	None		
Floor insulation (m <sup>2</sup> .K/W)	None	<i>Other</i>	
External wall colour	Medium	Terrain category	Suburban
Roof colour	Medium		
Eaves width (mm)	0	<i>Hot Water System</i>	
Eaves offset (mm)	0		

\*\* Where there are two or more construction types for a given element (e.g. external wall), only the one with the greatest area is listed here. Refer to Building Data Report for more details.



# NatHERS V2.31

## Nationwide House Energy Rating Scheme

JobName:	HOUSE 6 SOLAR	Job No:		Run No:	1	Climate Zone:	24
Client:	SEAV AGO ABCB	Site Address:	AUSTRALIA CANBERRA 2601				
Assessor:							
Date:	14/9/2001	Time:	13:43			Page	1

### Building Data Report

#### Living Area Zone

##### EXTERNAL WALLS

Description	Area m <sup>2</sup>	Azimuth deg	Pergola			Eaves
			Width m	Height m	Sched. %	
Weatherboard/Insul: None	9.8	0	0.0	0.0	0	Y
Weatherboard/Insul: None	16.2	90	0.0	0.0	0	Y
Weatherboard/Insul: None	15.5	180	0.0	0.0	0	Y

##### WINDOWS

Description	Indoor covering	Outdoor covering	Area m <sup>2</sup>	Azl. deg	Pergola			Adjacent Building			Shade by Walls		
					W m	H m	Sch %	W m	H m	O m	L m	R m	Eaves
4mm single-glazed clear, Al frame, standard	None	None	15.1	0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	N
4mm single-glazed clear, Al frame, standard	None	None	0.8	90	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	N
4mm single-glazed clear, Al frame, standard	None	None	9.4	180	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	N

##### PARTITIONS

Description						Area m <sup>2</sup>	Adjacent zone
Plasterboard on Studs						10.8	Bedrooms
Plasterboard on Studs						2.2	Other
Plasterboard on Studs						4.1	UnCond
Plasterboard on Studs						17.0	Unknown

##### FLOORS

Description				Area m <sup>2</sup>	Adjacent zone
Timber/Insul: None/Cover: Carpet				60.5	SubFloor
Timber/Insul: None/Cover: Vinyl				13.1	SubFloor

##### CEILINGS

Description				Area m <sup>2</sup>	Above ceiling
Plasterboard/Insul: None				73.6	RoofSp



## NatHERS V2.31

### Nationwide House Energy Rating Scheme

JobName:	HOUSE 6 SOLAR	Job No:		Run No:	1	Climate Zone:	24
Client:	SEAV AGO ABCB	Site Address:	AUSTRALIA CANBERRA 2601				
Assessor:							
Date:	14/9/2001	Time:	13:43			Page:	2

### Building Data Report

#### Bed Rooms Zone

##### *EXTERNAL WALLS*

Description	Area m <sup>2</sup>	Azimuth deg	Pergola			Eaves
			Width m	Height m	Sched. %	
Weatherboard/Insul: None	12.8	0	0.0	0.0	0	Y
Weatherboard/Insul: None	17.0	270	0.0	0.0	0	Y
Weatherboard/Insul: None	6.8	180	0.0	0.0	0	Y

##### *WINDOWS*

Description	Indoor covering	Outdoor covering	Area m <sup>2</sup>	Azl. deg	Pergola		Adjacent Building			Shade by Walls			Eaves	
					W m	H m	Sch %	W m	H m	F m	O m	L m	R m	
4mm single-glazed clear, Al frame, standard	None	None	17.0	0	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	N
4mm single-glazed clear, Al frame, standard	None	None	2.2	180	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	N

##### *PARTITIONS*

Description	Area m <sup>2</sup>	Adjacent zone
Plasterboard on Studs	41.0	Unknown
Plasterboard on Studs	10.8	Living
Plasterboard on Studs	23.0	Other
Plasterboard on Studs	4.3	UnCond

##### *FLOORS*

Description	Area m <sup>2</sup>	Adjacent zone
Timber/Insul: None/Cover: Carpet	61.6	SubFloor
Timber/Insul: None/Cover: Ceramic Tiles	3.5	SubFloor

##### *CEILINGS*

Description	Area m <sup>2</sup>	Above ceiling
Plasterboard/Insul: None	65.1	RoofSp



# NatHERS V2.31

## Nationwide House Energy Rating Scheme

JobName:	HOUSE 6 SOLAR	Job No:	Ran No:	1	Climate Zone:	24
Client:	SEAV AGO ABCB	Site Address:	AUSTRALIA CANBERRA 2601			
Assessor:						
Date:	14/9/2001	Time:	13:43		Page	3

### Building Data Report

#### Other Conditioned Zone

##### EXTERNAL WALLS

Description	Area m <sup>2</sup>	Azimuth deg	Pergola			Sched. #	Eaves
			Width m	Height m	Schd.		
Weatherboard/Timber: None	3.2	180	0.0	0.0	0	0	Y

##### WINDOWS

Description	Indoor covering	Outdoor covering	Area m <sup>2</sup>	Azl. deg	Pergola			Adjacent Building			Shade by Walls			
					W m	H m	Schd.	W m	H m	F m	O m	L m	R m	Eaves
4mm single-glazed clear, Al frame, standard	None	None	3.8	180	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	N

##### PARTITIONS

Description						Area m <sup>2</sup>	Adjacent Zone
Plasterboard on Studs						2.2	
Plasterboard on Studs						23.0	Living
Plasterboard on Studs						22.6	Bedrooms UnCond

##### FLOORS

Description				Area m <sup>2</sup>	Adjacent Zone
Timber/lasul: None/Cover: Carpet				13.1	SubFloor

##### CEILINGS

Description				Area m <sup>2</sup>	Above ceiling
Plasterboard/lasul: None				13.1	RoofSp



# NatHERS V2.31

## Nationwide House Energy Rating Scheme

JobName:	HOUSE 6 SOLAR	Job No:	Ran No:	1	Climate Zone:	24
Client:	SEAV AGO ABCB	Site Address:	AUSTRALIA CANBERRA 2601			
Assessor:						
Date:	14/9/2001	Time:	13:43		Page	3

### Building Data Report

#### Other Conditioned Zone

##### EXTERNAL WALLS

Description	Area m <sup>2</sup>	Azimuth deg	Pergola			Sched. #	Eaves
			Width m	Height m	Schd.		
Weatherboard/Timber: None	3.2	180	0.0	0.0	0	0	Y

##### WINDOWS

Description	Indoor covering	Outdoor covering	Area m <sup>2</sup>	Azl. deg	Pergola			Adjacent Building			Shade by Walls			
					W m	H m	Schd.	W m	H m	F m	O m	L m	R m	Eaves
4mm single-glazed clear, Al frame, standard	None	None	3.8	180	0.0	0.0	0	0.0	0.0	0.0	0.0	0.0	0.0	N

##### PARTITIONS

Description						Area m <sup>2</sup>	Adjacent Zone
Plasterboard on Studs						2.2	
Plasterboard on Studs						23.0	Living
Plasterboard on Studs						22.6	Bedrooms UnCond

##### FLOORS

Description				Area m <sup>2</sup>	Adjacent Zone
Timber/lasul: None/Cover: Carpet				13.1	SubFloor

##### CEILINGS

Description				Area m <sup>2</sup>	Above ceiling
Plasterboard/lasul: None				13.1	RoofSp



## NatHERS V2.31

Nationwide House Energy Rating Scheme

JobName:	HOUSE 6 SOLAR	Job No:	Ran No:	1	Climate Zone:	24
Client:	SEAV AGO ABCB	Site Address:	AUSTRALIA CANBERRA 2601			
Assessor:						
Date:	14/9/2001	Time:	13:43		Page	5

### Building Data Report

#### PERGOLA SCHEDULES\*

No.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0

\* Values indicate sun-blocking percentages: 100 indicates full shade; 0 indicates no shade

#### HEATED AND COOLED ZONES

	Heated	Cooled
Living	Y	Y
Bedroom	Y	Y
Other	Y	Y

#### SETTINGS

Heating thermostat	21.0	Ventilation on temperature [3]	24.0
Heating on/off times	0700:0000	Ventilation off temperature [4]	22.0
Cooling thermostat	26.0	Ventilation A factor [5]	3.0
Cooling on/off times	0700:0000	Ventilation B factor [5]	10.0
Outdoor covering solar [1]	75	Indoor coverings open time	0700
Outdoor covering, outdoor temp [1]	24	Indoor coverings closing time	1800
Indoor covering solar [2]	200		
Indoor covering, outdoor temp [2]	28		

[1]. Outdoor window coverings are drawn if total incident solar radiation on window exceeds listed value, and if outdoor temperature exceeds listed value.

[2]. Indoor window coverings are drawn if total incident solar radiation on window exceeds listed value, and if outdoor temperature exceeds listed value.

[3]. Indoor temperature above which additional ventilation is available.

[4]. Indoor temperature below which additional ventilation is switched off.

[5]. Additional ventilation rate is calculated as: air changes / hour = A + B sqrt(v), where v is the terrain-adjusted wind speed.

## 13. APPENDIX: CONSTRUCTION PRICING & DESCRIPTIONS

### 13.1 House Prices

The following tables provide the cost per square metre for the six house types, four wall types and two floor types for the 12 locations. These tables should be read in conjunction with the tables providing floor areas in Section 13.2 following.

House: Wall type: Floor type:	Base house								Medium Single Storey							
	Wall A		Wall B		Wall C		Wall D		Wall A		Wall B		Wall C		Wall D	
Concrete	Timber	Concrete	Timber	Concrete	Timber	Concrete	Timber	Concrete	Timber	Concrete	Timber	Concrete	Timber	Concrete	Timber	Concrete
1 Adelaide	\$805	\$942	\$745	\$876	\$786	\$916	\$734	\$864	\$804	\$964	\$742	\$897	\$785	\$938	\$733	\$886
2 Brisbane	\$774	\$866	\$724	\$813	\$876	\$964	\$701	\$790	\$773	\$894	\$723	\$840	\$875	\$990	\$700	\$816
3 Canberra	\$908	\$1,026	\$876	\$990	\$1,079	\$1,191	\$828	\$940	\$907	\$1,059	\$875	\$1,023	\$1,078	\$1,223	\$827	\$973
4 Darwin	\$1,031	\$1,206	\$953	\$1,122	\$1,006	\$1,173	\$940	\$1,106	\$1,029	\$1,234	\$950	\$1,148	\$1,005	\$1,201	\$938	\$1,134
5 Hobart	\$739	\$832	\$698	\$787	\$920	\$1,009	\$744	\$832	\$738	\$861	\$697	\$816	\$920	\$1,037	\$735	\$852
6 Longreach	\$890	\$996	\$833	\$935	\$1,007	\$1,109	\$806	\$908	\$889	\$1,028	\$832	\$966	\$1,006	\$1,139	\$805	\$938
7 Melbourne	\$787	\$885	\$743	\$838	\$979	\$1,073	\$791	\$885	\$785	\$916	\$742	\$868	\$978	\$1,103	\$782	\$907
8 Mildura	\$802	\$902	\$758	\$854	\$999	\$1,094	\$807	\$903	\$801	\$935	\$757	\$885	\$998	\$1,125	\$797	\$925
9 Perth	\$947	\$1,021	\$848	\$919	\$915	\$985	\$810	\$880	\$946	\$1,071	\$844	\$965	\$911	\$1,031	\$809	\$928
10 Sydney	\$890	\$1,005	\$859	\$971	\$1,057	\$1,168	\$812	\$922	\$889	\$1,038	\$858	\$1,003	\$1,057	\$1,199	\$811	\$954
11 Townsville	\$766	\$858	\$717	\$805	\$867	\$954	\$694	\$782	\$765	\$885	\$716	\$832	\$866	\$980	\$693	\$807
12 West Sydney	\$890	\$1,005	\$859	\$971	\$1,057	\$1,168	\$812	\$922	\$889	\$1,038	\$858	\$1,003	\$1,057	\$1,199	\$811	\$954

House: Wall type: Floor type:	Large two storey								Townhouse							
	Wall A		Wall B		Wall C		Wall D		Wall A		Wall B		Wall C		Wall D	
Concrete	Timber	Concrete	Timber	Concrete	Timber	Concrete	Timber	Concrete	Timber	Concrete	Timber	Concrete	Timber	Concrete	Timber	Concrete
1 Adelaide	\$772	\$960	\$715	\$897	\$758	\$938	\$706	\$886	\$807	\$873	\$798	\$849	\$795	\$841	\$801	\$846
2 Brisbane	\$742	\$913	\$698	\$863	\$849	\$1,013	\$675	\$838	\$803	\$828	\$787	\$797	\$897	\$902	\$784	\$790
3 Canberra	\$870	\$1,056	\$845	\$1,024	\$1,048	\$1,225	\$797	\$974	\$940	\$986	\$944	\$973	\$1,087	\$1,111	\$923	\$947
4 Darwin	\$988	\$1,229	\$915	\$1,148	\$971	\$1,201	\$904	\$1,134	\$1,033	\$1,118	\$1,022	\$1,087	\$1,018	\$1,077	\$1,025	\$1,083
5 Hobart	\$762	\$912	\$670	\$816	\$893	\$1,036	\$716	\$860	\$743	\$784	\$754	\$781	\$920	\$943	\$808	\$830
6 Longreach	\$853	\$1,050	\$802	\$992	\$977	\$1,165	\$776	\$964	\$924	\$952	\$905	\$917	\$1,031	\$1,038	\$902	\$908
7 Melbourne	\$810	\$970	\$713	\$868	\$950	\$1,103	\$762	\$915	\$790	\$834	\$802	\$831	\$979	\$1,003	\$859	\$883
8 Mildura	\$827	\$990	\$727	\$885	\$969	\$1,125	\$777	\$933	\$806	\$850	\$818	\$847	\$999	\$1,023	\$876	\$901
9 Perth	\$910	\$1,040	\$814	\$940	\$882	\$1,006	\$779	\$903	\$949	\$945	\$911	\$892	\$941	\$917	\$884	\$860
10 Sydney	\$853	\$1,035	\$828	\$1,004	\$1,027	\$1,201	\$781	\$955	\$921	\$967	\$926	\$954	\$1,066	\$1,089	\$905	\$928
11 Townsville	\$734	\$904	\$691	\$854	\$841	\$1,003	\$668	\$830	\$795	\$819	\$779	\$789	\$888	\$893	\$776	\$782
12 West Sydney	\$853	\$1,035	\$828	\$1,004	\$1,027	\$1,201	\$781	\$955	\$921	\$967	\$926	\$954	\$1,066	\$1,089	\$905	\$928

House:	Cross Ventilation								“Passive Solar”							
Wall type:	Wall A		Wall B		Wall C		Wall D		Wall A		Wall B		Wall C		Wall D	
Floor type:	Concrete	Timber	Concrete	Timber	Concrete	Timber	Concrete	Timber	Concrete	Timber	Concrete	Timber	Concrete	Timber	Concrete	Timber
1 Adelaide	\$865	\$1,121	\$797	\$1,044	\$835	\$1,080	\$783	\$1,028	\$921	\$1,127	\$838	\$1,038	\$881	\$1,078	\$829	\$1,026
2 Brisbane	\$830	\$1,038	\$771	\$971	\$922	\$1,121	\$747	\$946	\$883	\$1,044	\$814	\$969	\$966	\$1,119	\$791	\$944
3 Canberra	\$974	\$1,231	\$931	\$1,179	\$1,133	\$1,378	\$883	\$1,128	\$1,036	\$1,236	\$982	\$1,175	\$1,184	\$1,375	\$934	\$1,124
4 Darwin	\$1,107	\$1,435	\$1,020	\$1,337	\$1,069	\$1,382	\$1,002	\$1,315	\$1,179	\$1,443	\$1,073	\$1,328	\$1,128	\$1,380	\$1,061	\$1,313
5 Hobart	\$798	\$1,004	\$747	\$946	\$969	\$1,165	\$792	\$988	\$853	\$1,013	\$792	\$946	\$1,014	\$1,167	\$838	\$990
6 Longreach	\$955	\$1,194	\$886	\$1,117	\$1,060	\$1,289	\$859	\$1,088	\$1,016	\$1,200	\$936	\$1,115	\$1,110	\$1,287	\$909	\$1,086
7 Melbourne	\$849	\$1,068	\$794	\$1,006	\$1,031	\$1,240	\$842	\$1,051	\$908	\$1,078	\$843	\$1,007	\$1,079	\$1,241	\$891	\$1,053
8 Mildura	\$866	\$1,090	\$810	\$1,026	\$1,051	\$1,265	\$859	\$1,072	\$926	\$1,099	\$860	\$1,027	\$1,101	\$1,266	\$909	\$1,074
9 Perth	\$972	\$1,159	\$900	\$1,081	\$966	\$1,146	\$864	\$1,043	\$1,041	\$1,183	\$950	\$1,088	\$1,017	\$1,153	\$914	\$1,050
10 Sydney	\$955	\$1,207	\$913	\$1,156	\$1,111	\$1,351	\$865	\$1,106	\$1,016	\$1,211	\$963	\$1,152	\$1,161	\$1,348	\$915	\$1,102
11 Townsville	\$822	\$1,028	\$763	\$962	\$913	\$1,109	\$740	\$936	\$874	\$1,033	\$806	\$960	\$956	\$1,108	\$783	\$935
12 West Sydney	\$955	\$1,207	\$913	\$1,156	\$1,111	\$1,351	\$865	\$1,106	\$1,016	\$1,211	\$963	\$1,152	\$1,161	\$1,348	\$915	\$1,102

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## 13.2 House Pricing Details

The following tables have been extracted from the Northcroft pricing spreadsheets for the six house designs located in Sydney. They provide areas, base costs and incremental costs per square metre for the various energy efficiency options. Similar tables were prepared for other locations, but are not given here for space reasons. Further details on the development of the pricing is given in Section 3.1 (page 14 and following).

House: Location: GFA Actual GFA Conditioned GFA Administrative Garage Net Floor Area	House 1 - Base House					House 2 - Medium Single Storey House				
Sydney						Sydney				
173 m <sup>2</sup>						254 m <sup>2</sup>				
143 m <sup>2</sup>						168 m <sup>2</sup>				
157 m <sup>2</sup>						186 m <sup>2</sup>				
						48 m <sup>2</sup>				
160 m <sup>2</sup>						233 m <sup>2</sup>				
<b>External Walls area</b>	110 m <sup>2</sup>	Base	Type 1	Type 2	Type 3	145 m <sup>2</sup>	Base	Type 1	Type 2	Type 3
Wall A		\$108.80 /m <sup>2</sup>	\$1.60 /m <sup>2</sup>	\$6.95 /m <sup>2</sup>	\$8.15 /m <sup>2</sup>		\$108.80 /m <sup>2</sup>	\$1.20 /m <sup>2</sup>	\$5.35 /m <sup>2</sup>	\$6.25 /m <sup>2</sup>
Wall B		\$137.0 /m <sup>2</sup>	\$1.60 /m <sup>2</sup>	\$8.15 /m <sup>2</sup>	\$9.70 /m <sup>2</sup>		\$137.0 /m <sup>2</sup>	\$1.20 /m <sup>2</sup>	\$6.25 /m <sup>2</sup>	\$9.80 /m <sup>2</sup>
Wall C		\$170.80 /m <sup>2</sup>	\$10.31 /m <sup>2</sup>	\$14.20 /m <sup>2</sup>	\$15.20 /m <sup>2</sup>		\$170.80 /m <sup>2</sup>	\$7.90 /m <sup>2</sup>	\$10.85 /m <sup>2</sup>	\$11.65 /m <sup>2</sup>
Wall D		\$82.0 /m <sup>2</sup>	\$25.25 /m <sup>2</sup>	\$29.10 /m <sup>2</sup>	\$30.10 /m <sup>2</sup>		\$82.0 /m <sup>2</sup>	\$19.35 /m <sup>2</sup>	\$22.30 /m <sup>2</sup>	\$23.05 /m <sup>2</sup>
<b>Roof area</b>	173 m <sup>2</sup>	Base	Type 1	Type 2	Type 3	254 m <sup>2</sup>	Base	Type 1	Type 2	Type 3
Roof A		\$100.10 /m <sup>2</sup>	\$5.45 /m <sup>2</sup>	\$5.40 /m <sup>2</sup>	\$8.0 /m <sup>2</sup>		\$86.05 /m <sup>2</sup>	\$3.30 /m <sup>2</sup>	\$4.25 /m <sup>2</sup>	\$6.35 /m <sup>2</sup>
Roof B		\$71.85 /m <sup>2</sup>	\$4.10 /m <sup>2</sup>	\$5.40 /m <sup>2</sup>	\$8.0 /m <sup>2</sup>		\$66.85 /m <sup>2</sup>	\$3.20 /m <sup>2</sup>	\$4.25 /m <sup>2</sup>	\$6.35 /m <sup>2</sup>
										\$9.95 /m <sup>2</sup>
										\$9.60 /m <sup>2</sup>
<b>Ground Floor area</b>	173 m <sup>2</sup>	Base	Type 1	Type 2		254 m <sup>2</sup>	Base	Type 1	Type 2	
Floor A		\$71.0 /m <sup>2</sup>	\$10.0 /m <sup>2</sup>				\$71.0 /m <sup>2</sup>	\$7.95 /m <sup>2</sup>		
Floor B		\$100.10 /m <sup>2</sup>	\$4.05 /m <sup>2</sup>	\$10.80 /m <sup>2</sup>			\$108.70 /m <sup>2</sup>	\$3.20 /m <sup>2</sup>	\$8.55 /m <sup>2</sup>	
<b>Window area</b>	33 m <sup>2</sup>	Base	Type 1	Type 2	Type 3	43 m <sup>2</sup>	Base	Type 1	Type 2	Type 3
Type		\$207.20 /m <sup>2</sup>	\$30.0 /m <sup>2</sup>	\$115.70 /m <sup>2</sup>	\$145.70 /m <sup>2</sup>		\$207.50 /m <sup>2</sup>	\$30.0 /m <sup>2</sup>	\$115.70 /m <sup>2</sup>	\$145.70 /m <sup>2</sup>
<b>Shading</b>	No eaves	600 mm eaves	Awnings	Verandah		No eaves	600 mm eaves	Awnings	Verandah	
Shading area	0 m <sup>2</sup>	35 m <sup>2</sup>	19 m <sup>2</sup>	252 m <sup>2</sup>			0 m <sup>2</sup>	51 m <sup>2</sup>	26 m <sup>2</sup>	Not costed!
Shading cost	\$0.0 /m <sup>2</sup>	\$101.70 /m <sup>2</sup>	\$266.65 /m <sup>2</sup>	\$102.95 /m <sup>2</sup>			\$0.0 /m <sup>2</sup>	\$102.55 /m <sup>2</sup>	\$231.80 /m <sup>2</sup>	\$0.0 /m <sup>2</sup>

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House: Location: GFA Actual GFA Conditioned GFA Administrative Garage Net Floor Area	House 3 - Large Two Storey House & Garage Sydney 294 m <sup>2</sup> 203 m <sup>2</sup> 228 m <sup>2</sup> 34 m <sup>2</sup> 265 m <sup>2</sup>					House 4 - Middle Row Townhouse Sydney 133 m <sup>2</sup> 84 m <sup>2</sup> 94 m <sup>2</sup> 21 m <sup>2</sup> 118 m <sup>2</sup>							
<b>External Walls area</b>	266 m <sup>2</sup>	Base	Type 1	Type 2	Type 3	167 m <sup>2</sup>	Base	Type 1	Type 2	Type 3			
Wall A		\$108.80 /m <sup>2</sup>	\$1.40 /m <sup>2</sup>	\$6.05 /m <sup>2</sup>	\$7.05 /m <sup>2</sup>		\$67.30 /m <sup>2</sup>	\$0.30 /m <sup>2</sup>	\$1.30 /m <sup>2</sup>	\$1.50 /m <sup>2</sup>			
Wall B		\$137.0 /m <sup>2</sup>	\$1.40 /m <sup>2</sup>	\$7.05 /m <sup>2</sup>	\$8.45 /m <sup>2</sup>		\$83.15 /m <sup>2</sup>	\$0.30 /m <sup>2</sup>	\$1.50 /m <sup>2</sup>	\$1.80 /m <sup>2</sup>			
Wall C		\$170.80 /m <sup>2</sup>	\$8.95 /m <sup>2</sup>	\$12.35 /m <sup>2</sup>	\$13.20 /m <sup>2</sup>		\$92.50 /m <sup>2</sup>	\$1.95 /m <sup>2</sup>	\$2.65 /m <sup>2</sup>	\$2.85 /m <sup>2</sup>			
Wall D		\$82.0 /m <sup>2</sup>	\$21.95 /m <sup>2</sup>	\$25.30 /m <sup>2</sup>	\$26.15 /m <sup>2</sup>		\$59.70 /m <sup>2</sup>	\$4.70 /m <sup>2</sup>	\$5.40 /m <sup>2</sup>	\$5.60 /m <sup>2</sup>			
<b>Roof area</b>	200 m <sup>2</sup>	Base	Type 1	Type 2	Type 3	70 m <sup>2</sup>	Base	Type 1	Type 2	Type 3			
Roof A		\$94.60 /m <sup>2</sup>	\$5.20 /m <sup>2</sup>	\$4.30 /m <sup>2</sup>	\$6.40 /m <sup>2</sup>	\$10.0 /m <sup>2</sup>	\$11.60 /m <sup>2</sup>	\$4.70 /m <sup>2</sup>	\$4.85 /m <sup>2</sup>	\$7.20 /m <sup>2</sup>	\$11.35 /m <sup>2</sup>	\$11.90 /m <sup>2</sup>	
Roof B		\$74.10 /m <sup>2</sup>	\$3.30 /m <sup>2</sup>	\$4.30 /m <sup>2</sup>	\$6.40 /m <sup>2</sup>	\$10.0 /m <sup>2</sup>	\$9.70 /m <sup>2</sup>		\$4.05 /m <sup>2</sup>	\$4.85 /m <sup>2</sup>	\$7.20 /m <sup>2</sup>	\$11.35 /m <sup>2</sup>	\$11.25 /m <sup>2</sup>
<b>Ground Floor area</b>	200 m <sup>2</sup>	Base	Type 1	Type 2		70 m <sup>2</sup>	Base	Type 1	Type 2				
Floor A		\$71.0 /m <sup>2</sup>	\$8.30 /m <sup>2</sup>				\$71.0 /m <sup>2</sup>	\$7.30 /m <sup>2</sup>					
Floor B		\$116.90 /m <sup>2</sup>	\$3.35 /m <sup>2</sup>				\$124.05 /m <sup>2</sup>	\$2.95 /m <sup>2</sup>					
<b>Window area</b>	54 m <sup>2</sup>	Base	Type 1	Type 2	Type 3	23 m <sup>2</sup>	Base	Type 1	Type 2	Type 3			
Type		\$207.50 /m <sup>2</sup>	\$30.0 /m <sup>2</sup>	\$115.70 /m <sup>2</sup>	\$145.70 /m <sup>2</sup>		\$207.50 /m <sup>2</sup>	\$30.0 /m <sup>2</sup>	\$115.70 /m <sup>2</sup>	\$145.70 /m <sup>2</sup>			
<b>Shading</b>	No eaves	600 mm eaves	Awnings	Verandah		No eaves	600 mm eaves	Awnings	Verandah				
Shading area	0 m <sup>2</sup>	75 m <sup>2</sup>	27 m <sup>2</sup>	Not costed!			0 m <sup>2</sup>	8 m <sup>2</sup>	10 m <sup>2</sup>	43 m <sup>2</sup>			
Shading cost	\$0.0 /m <sup>2</sup>	\$101.75 /m <sup>2</sup>	\$282.80 /m <sup>2</sup>	\$0.0 /m <sup>2</sup>			\$0.0 /m <sup>2</sup>	\$103.95 /m <sup>2</sup>	\$271.30 /m <sup>2</sup>	\$106.95 /m <sup>2</sup>			

House: Location: GFA Actual GFA Conditioned GFA Administrative Garage Net Floor Area	House 5 - Cross Ventilated Tropics Sydney 156 m <sup>2</sup> 138 m <sup>2</sup> 150 m <sup>2</sup> 151 m <sup>2</sup>					House 6 - "Passive Solar" Design Sydney 172 m <sup>2</sup> 152 m <sup>2</sup> 162 m <sup>2</sup> 162 m <sup>2</sup>							
<b>External Walls area</b>	117 m <sup>2</sup>	Base	Type 1	Type 2	Type 3	89 m <sup>2</sup>	Base	Type 1	Type 2	Type 3			
Wall A		\$108.80 /m <sup>2</sup>	\$1.60 /m <sup>2</sup>	\$6.95 /m <sup>2</sup>	\$8.15 /m <sup>2</sup>		\$108.80 /m <sup>2</sup>	\$1.60 /m <sup>2</sup>	\$6.95 /m <sup>2</sup>	\$8.15 /m <sup>2</sup>			
Wall B		\$137.0 /m <sup>2</sup>	\$1.60 /m <sup>2</sup>	\$8.15 /m <sup>2</sup>	\$9.70 /m <sup>2</sup>		\$137.0 /m <sup>2</sup>	\$1.60 /m <sup>2</sup>	\$8.15 /m <sup>2</sup>	\$9.70 /m <sup>2</sup>			
Wall C		\$170.80 /m <sup>2</sup>	\$10.35 /m <sup>2</sup>	\$14.20 /m <sup>2</sup>	\$15.20 /m <sup>2</sup>		\$170.80 /m <sup>2</sup>	\$10.35 /m <sup>2</sup>	\$14.20 /m <sup>2</sup>	\$15.20 /m <sup>2</sup>			
Wall D		\$82.0 /m <sup>2</sup>	\$25.25 /m <sup>2</sup>	\$29.10 /m <sup>2</sup>	\$30.10 /m <sup>2</sup>		\$82.0 /m <sup>2</sup>	\$25.25 /m <sup>2</sup>	\$29.10 /m <sup>2</sup>	\$30.10 /m <sup>2</sup>			
<b>Roof area</b>	156 m <sup>2</sup>	Base	Type 1	Type 2	Type 3	172 m <sup>2</sup>	Base	Type 1	Type 2	Type 3			
Roof A		\$90.90 /m <sup>2</sup>	\$4.35 /m <sup>2</sup>	\$5.65 /m <sup>2</sup>	\$8.40 /m <sup>2</sup>	\$13.15 /m <sup>2</sup>	\$12.75 /m <sup>2</sup>	\$4.10 /m <sup>2</sup>	\$5.55 /m <sup>2</sup>	\$8.30 /m <sup>2</sup>	\$13.0 /m <sup>2</sup>	\$12.40 /m <sup>2</sup>	
Roof B		\$70.95 /m <sup>2</sup>	\$4.05 /m <sup>2</sup>	\$5.65 /m <sup>2</sup>	\$8.40 /m <sup>2</sup>	\$13.15 /m <sup>2</sup>	\$12.45 /m <sup>2</sup>		\$4.05 /m <sup>2</sup>	\$5.50 /m <sup>2</sup>	\$8.20 /m <sup>2</sup>	\$12.85 /m <sup>2</sup>	\$12.20 /m <sup>2</sup>
<b>Ground Floor area</b>	156 m <sup>2</sup>	Base	Type 1	Type 2		172 m <sup>2</sup>	Base	Type 1	Type 2				
Floor A		\$71.0 /m <sup>2</sup>	\$10.0 /m <sup>2</sup>				\$71.0 /m <sup>2</sup>	\$10.0 /m <sup>2</sup>					
Floor B		\$134.40 /m <sup>2</sup>	\$4.05 /m <sup>2</sup>				\$120.25 /m <sup>2</sup>	\$4.05 /m <sup>2</sup>					
<b>Window area</b>	55 m <sup>2</sup>	Base	Type 1	Type 2	Type 3	56 m <sup>2</sup>	Base	Type 1	Type 2	Type 3			
Type		\$207.50 /m <sup>2</sup>	\$30.0 /m <sup>2</sup>	\$115.70 /m <sup>2</sup>	\$145.70 /m <sup>2</sup>		\$207.50 /m <sup>2</sup>	\$30.0 /m <sup>2</sup>	\$115.70 /m <sup>2</sup>	\$145.70 /m <sup>2</sup>			
<b>Shading</b>	No eaves	600 mm eaves	Awnings	Verandah		No eaves	600 mm eaves	Awnings	Verandah				
Shading area	0 m <sup>2</sup>	46 m <sup>2</sup>	26 m <sup>2</sup>	126 m <sup>2</sup>			0 m <sup>2</sup>	28 m <sup>2</sup>	28 m <sup>2</sup>	53 m <sup>2</sup>			
Shading cost	\$0.0 /m <sup>2</sup>	\$101.05 /m <sup>2</sup>	\$260.50 /m <sup>2</sup>	\$96.10 /m <sup>2</sup>			\$0.0 /m <sup>2</sup>	\$101.05 /m <sup>2</sup>	\$278.0 /m <sup>2</sup>	\$131.10 /m <sup>2</sup>			

### 13.3 Construction Details

Table 48 provides a summary of the construction details for each of the energy efficiency variations.

Description	A / 1	B / 2	C / 3	D / 4	E / 5	F / 6
Wall constructions Type 0 (No Insulation in Base Cases)	Timber Framed Weatherboard with paper under weatherboards and 10mm plasterboard internal lining. Timber framed internal walls with 10mm plasterboard lining. =R0.5	110mm Clay Brick Veneer, Timber Framed with Paper outside frame and 10mm Plasterboard Internal Lining. Timber framed internal walls with 10mm plasterboard lining. =R0.5	Cavity Brick walls with 110mm Clay Brick External leave, 50mm cavity and all Internal Walls 90mm brick. Painted Finish. =R0.4	Single Skin, Hollow Concrete Block 190-200mm External & 100mm internal walls - painted finish. =R0.4		
Wall Insulation Type 1	Reflective Foil Insulation in Place of Paper on Outside of Frame, Under Weatherboards =R0.9	Reflective foil Insulation on Outside of Timber Frame =R1.5	Add 30mm thick Polystyrene board to outside face of inside bricks. =R1.5	Add 28mm thick Polystyrene board with cement render finish on outside face of concrete blocks. =R1.5		
Wall Insulation Type 2	Add R1.5 Batts in Wall Framing =R1.6	R2 Batts in Wall Framing =R1.8	Add 40mm thick Polystyrene board to outside face of inside bricks. =R1.9	Add 38mm thick Polystyrene board with cement render finish on outside face of concrete blocks. =R1.9		
Wall Insulation Type 3	Add R2 Batts in Wall Framing =R1.85	R2 Batts In Framing and Reflective Foil on outside of frame. =R2.3	Add 50mm thick Polystyrene board to outside face of inside bricks. =R2.3	Add 47mm thick Polystyrene board with cement render finish on outside face of concrete blocks. =R2.3		
Thermal Insulation – roof	19mm Concrete Tile, Roof Space, 10mm Plasterboard Ceiling R0.3winter R0.8summer	Type A Roof Plus foil under tiles. =R0.6winter; R1.8summer	Type A Roof Plus R1 Ceiling Insulation R1.4	Type A Roof Plus R3 Ceiling Insulation =R3.1	Type A Roof Plus R5 Ceiling Insulation =R5.1	Type A Roof Plus Foil under tiles and R3 Ceiling Insulation =R3.4winter; R4.2summer
Thermal insulation - suspended floor	Suspended Particle-board floor. =R0.3	Plus foil =R0.8	Plus R2 Bulk Insulation =R2.1			
Thermal insulation - slab-on-grade floor	Plain 100mm thick steel reinforced slab with 450 x 450mm perimeter footings.	Limited runs with 25mm Polystyrene R2 board to 450mm depth around perimeter of house (Effective Total Floor R-value depends on Floor shape.)				
+Glazing thermal performance	Aluminium Sliding Frame with Plain 6mm float glass. NatHERS Type = "SG Clr" + Aluminium Frame	Aluminium Sliding Frame with Tinted 6mm float glass. NatHERS Type = "SG Tint" + Aluminium Frame	Thermally Broken Aluminium Sliding Frame with Double Glazing by 2 layers of clear 4mm float glass. NatHERS Type = "DG Clr 4/8/4" + Aluminium TB Frame	Thermally Broken Aluminium Sliding Frame with Double Glazing by 2 layers of 4mm glass with Low-E coating. NatHERS Type = "DG,LE,HI" + Aluminium TB Frame		

<b>Description</b>	<b>A / 1</b>	<b>B / 2</b>	<b>C / 3</b>	<b>D / 4</b>	<b>E / 5</b>	<b>F / 6</b>
Shading (4th Shading type to be modelled for sensitivity analysis on selected climates and houses, after bulk runs.)	No Eaves	600mm Eaves on all sides of house.(as appropriate)	Closed fabric awnings over all windows. (Canvas awning fixed at head of window, hangs down to cover full height of window and extends 150mm past both ends of window.)	3.6m Wide Covered Verandah (Modelled in only some locations.)		

**Table 48 : Construction Descriptions**

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## **14. APPENDIX: EXAMPLE OF FINANCIAL TOOL RESULTS**

The table below provides an example of summary output available from the financial analysis tool. It takes the selected results from the CO<sub>2</sub> charts, and presents them for each location, for each house design, floor type and wall construction. They have been sorted into location order, and it can be seen that a relatively small number of energy efficiency combinations met the specific requirements for each location, regardless of house design, floor type or wall construction.

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Region	Design	Floor	Wall	Max CO <sub>2</sub> Savings (Option)	Max CO <sub>2</sub> (kg)	Max Net PV (Option)	Max NEV PV (\$)	Nearest and below
Adelaide	Cross vent tropics	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	8740	R3/R2/R0 Single G/ No shade	\$9,961	R5/R2/R0 Dbl G/ Eaves
Adelaide	Cross vent tropics	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	8000	R3/Foil/R0 Single G/ No shade	\$8,722	R5/R2+F/R0 Dbl G, low-E/ No shade
Adelaide	Cross vent tropics	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	7260	R3/30mmP/R0 Single G/ No shade	\$7,020	R5/30mmP/R0 Dbl G/ No shade
Adelaide	Cross vent tropics	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	8420	R3/28mmP/R0 Single G/ No shade	\$8,211	R5/47mmP/R0 Dbl G/ No shade
Adelaide	Cross vent tropics	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Eaves	9230	R3/R2/R0 Single G/ No shade	\$10,050	R3/R2/R0 Dbl G, low-E/ Eaves
Adelaide	Cross vent tropics	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	8350	R3/Foil/R0 Single G/ No shade	\$8,643	R5/R2+F/R0 Dbl G, low-E/ No shade
Adelaide	Cross vent tropics	Timb	Double Brick	R5/50mmP/Foil Dbl G, low-E/ Awning	7680	R3/30mmP/R0 Single G/ No shade	\$7,165	R5/50mmP/R0 Dbl G/ No shade
Adelaide	Cross vent tropics	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	8940	R3/28mmP/R0 Single G/ No shade	\$8,489	R5/47mmP/R0 Dbl G, low-E/ No shade
Adelaide	Large two storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	9870	R3/R2/R0 Single G/ No shade	\$11,321	R5/R2/R0 Dbl G, low-E/ No shade
Adelaide	Large two storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	8850	R3/R2/R0 Single G/ No shade	\$9,302	R5/R2+F/R0 Dbl G, low-E/ No shade
Adelaide	Large two storey	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	7590	R3/30mmP/R0 Single G/ No shade	\$6,533	R3/30mmP/R0 Dbl G/ No shade
Adelaide	Large two storey	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	9570	R3/28mmP/R0 Single G/ No shade	\$8,353	R3/47mmP/R0 Dbl G, low-E/ No shade
Adelaide	Large two storey	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Awning	10380	R3/R2/R0 Single G/ No shade	\$11,568	R5/R2/R2 Dbl G, low-E/ No shade
Adelaide	Large two storey	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Awning	9300	R3/R2/R0 Single G/ No shade	\$9,454	R5/R2+F/R2 Dbl G, low-E/ No shade
Adelaide	Large two storey	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	8040	R3/30mmP/R0 Single G/ No shade	\$6,638	R5/30mmP/R0 Dbl G/ No shade
Adelaide	Large two storey	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	10140	R3/28mmP/R0 Single G/ No shade	\$8,647	R5/47mmP/R0 Dbl G, low-E/ No shade
Adelaide	Medium one storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	8080	R3/R2/R0 Single G/ No shade	\$10,409	R5/R2/R0 Dbl G, low-E/ No shade
Adelaide	Medium one storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	7630	R3/Foil/R0 Single G/ No shade	\$9,750	R5/R2+F/R0 Dbl G, low-E/ No shade
Adelaide	Medium one storey	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	6890	R3/R0/R0 Single G/ No shade	\$8,318	R5/50mmP/R0 Dbl G, low-E/ No shade
Adelaide	Medium one storey	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	7670	R3/28mmP/R0 Single G/ No shade	\$8,826	R5/47mmP/R0 Dbl G, low-E/ No shade
Adelaide	Medium one storey	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Awning	8610	R3/R2/R0 Single G/ No shade	\$10,504	R5/R2/R2 Dbl G, low-E/ No shade
Adelaide	Medium one storey	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Awning	8110	R3/Foil/R0 Single G/ No shade	\$9,750	R5/R2+F/R2 Dbl G, low-E/ No shade
Adelaide	Medium one storey	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	7500	R3/R0/R0 Single G/ No shade	\$8,374	R5/50mmP/Foil Dbl G, low-E/ No shade
Adelaide	Medium one storey	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	8370	R3/28mmP/R0 Single G/ No shade	\$9,103	R5/47mmP/R2 Dbl G, low-E/ No shade
Adelaide	Passive Solar	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	8780	R3/R2/R0 Single G/ No shade	\$9,229	R3/R2/R0 Dbl G, low-E/ Eaves
Adelaide	Passive Solar	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	8100	R3/Foil/R0 Single G/ No shade	\$8,242	R5/R2/R0 Dbl G/ Eaves
Adelaide	Passive Solar	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	7310	R3/R0/R0 Single G/ No shade	\$7,027	R3/50mmP/R0 Dbl G/ No shade
Adelaide	Passive Solar	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	8200	R3/28mmP/R0 Single G/ No shade	\$7,900	R5/47mmP/R0 Dbl G/ No shade
Adelaide	Passive Solar	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Verandah	9780	R3/R2/R0 Single G, Tint/ No shade	\$9,539	R5/R2/Foil Dbl G/ Verandah
Adelaide	Passive Solar	Timb	Brick Veneer	R5/R2+F/Foil Dbl G, low-E/ Verandah	8930	R3/Foil/R0 Single G, Tint/ No shade	\$8,325	R5/R2+F/R0 Dbl G/ Eaves
Adelaide	Passive Solar	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	7780	R3/30mmP/R0 Single G/ No shade	\$7,207	R5/50mmP/R0 Dbl G/ No shade
Adelaide	Passive Solar	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	8770	R3/28mmP/R0 Single G/ No shade	\$8,320	R3/47mmP/R0 Dbl G/ Eaves
Adelaide	Small one storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	7440	R3/R2/R0 Single G/ No shade	\$9,447	R5/R2/R0 Dbl G, low-E/ Eaves
Adelaide	Small one storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	6860	R3/Foil/R0 Single G/ No shade	\$8,514	R5/R2+F/R0 Dbl G, low-E/ Eaves
Adelaide	Small one storey	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	6070	R3/R0/R0 Single G/ No shade	\$6,918	R5/50mmP/R0 Dbl G, low-E/ No shade
Adelaide	Small one storey	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	7010	R3/28mmP/R0 Single G/ No shade	\$7,825	R5/47mmP/R0 Dbl G, low-E/ No shade
Adelaide	Small one storey	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Awning	7900	R3/R2/R0 Single G/ No shade	\$9,607	R5/R2/R2 Dbl G, low-E/ Eaves
Adelaide	Small one storey	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Awning	7260	R3/Foil/R0 Single G/ No shade	\$8,559	R5/R2+F/Foil Dbl G, low-E/ Eaves
Adelaide	Small one storey	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	6570	R3/30mmP/R0 Single G/ No shade	\$7,104	R5/50mmP/R2 Dbl G, low-E/ No shade
Adelaide	Small one storey	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	7610	R3/28mmP/R0 Single G/ No shade	\$8,148	R5/47mmP/R2 Dbl G, low-E/ No shade
Adelaide	Townhouse	Conc	Weatherboard	R5/R2/Poly Dbl G, low-E/ Verandah	3170	R3/R2/R0 Single G/ No shade	\$3,012	R3/R2/R0 Dbl G/ Eaves
Adelaide	Townhouse	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	3010	R3/Foil/R0 Single G/ No shade	\$2,748	R5/R2+F/R0 Dbl G/ No shade
Adelaide	Townhouse	Conc	Double Brick	R5/50mmP/Poly Dbl G, low-E/ Awning	2650	R3/30mmP/R0 Single G/ Tint/ Eaves	\$2,207	R5/50mmP/R0 Single G, Tint/ Eaves
Adelaide	Townhouse	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	2940	R3/28mmP/R0 Single G/ No shade	\$2,543	R5/47mmP/R0 Single G, Tint/ Eaves
Adelaide	Townhouse	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Verandah	3350	R3/R2/R0 Single G/ No shade	\$3,151	R5/R2/R0 Dbl G, low-E/ No shade
Adelaide	Townhouse	Timb	Brick Veneer	R3/R2+F/Foil Dbl G, low-E/ Verandah	3070	R3/Foil/R0 Single G/ No shade	\$2,832	R5/R2+F/R0 Dbl G/ No shade
Adelaide	Townhouse	Timb	Double Brick	R5/50mmP/Foil Dbl G, low-E/ Awning	2750	R3/30mmP/R0 Single G/ No shade	\$2,283	R5/50mmP/R2 Single G, Tint/ Eaves
Adelaide	Townhouse	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	3080	R3/28mmP/R0 Single G/ No shade	\$2,665	R3/47mmP/R0 Dbl G/ No shade

Region	Design	Floor	Wall	Max CO <sub>2</sub> Savings (Option)	Max CO <sub>2</sub> (kg)	Max Net PV (Option)	Max NEV PV (\$)	Nearest and below
Brisbane	Cross vent tropics	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	6680	R3/R2/R0 Single G, Tint/ No shade	\$5,138	R5/R2/R0 Single G, Tint/ Eaves
Brisbane	Cross vent tropics	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	5750	R3/Foil/R0 Single G/ No shade	\$4,099	R5/R2+F/R0 Single G, Tint/ Eaves
Brisbane	Cross vent tropics	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	4810	R3/R0/R0 Single G/ No shade	\$3,087	R3/30mmP/R0 Single G/ Eaves
Brisbane	Cross vent tropics	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	5530	R3/R0/R0 Single G/ No shade	\$3,253	R5/47mmP/R0 Single G, Tint/ No shade
Brisbane	Cross vent tropics	Timb	Weatherboard	R5/R2/R0 Dbl G, low-E/ Eaves	7490	R3/R2/R0 Single G, Tint/ No shade	\$6,337	R5/R2/R0 Single G, Tint/ Eaves
Brisbane	Cross vent tropics	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Eaves	6320	R3/Foil/R0 Single G, Tint/ No shade	\$4,968	R5/R2+F/R0 Single G, Tint/ Eaves
Brisbane	Cross vent tropics	Timb	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	5290	R3/R0/R0 Single G/ No shade	\$3,351	R3/30mmP/R0 Single G, Tint/ Eaves
Brisbane	Cross vent tropics	Timb	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	6080	R3/R0/R0 Single G/ No shade	\$3,440	#N/A
Brisbane	Large two storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	7460	R3/R1.5/R0 Single G, Tint/ No shade	\$5,835	R3/R2/R0 Single G, Tint/ Eaves
Brisbane	Large two storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	6130	R3/Foil/R0 Single G, Tint/ No shade	\$4,638	R5/R2+F/R0 Single G, Tint/ No shade
Brisbane	Large two storey	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	4580	R3/R0/R0 Single G/ No shade	\$2,751	R3/50mmP/R0 Single G, Tint/ No shade
Brisbane	Large two storey	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	5760	R3/R0/R0 Single G/ No shade	\$3,003	#N/A
Brisbane	Large two storey	Timb	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	7950	R3/R1.5/R0 Single G, Tint/ No shade	\$6,555	R5/R2/R0 Single G, Tint/ Eaves
Brisbane	Large two storey	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	6510	R3/Foil/R0 Single G, Tint/ No shade	\$5,134	R5/R2+F/R0 Single G, Tint/ No shade
Brisbane	Large two storey	Timb	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	4880	R3/R0/R0 Single G/ No shade	\$2,871	R5/40mmP/R0 Single G, Tint/ No shade
Brisbane	Large two storey	Timb	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	6140	R3/R0/R0 Single G/ No shade	\$3,069	#N/A
Brisbane	Medium one storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	5870	R3/Foil/R0 Single G/ No shade	\$5,551	R5/R2/R0 Single G, Tint/ Eaves
Brisbane	Medium one storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	5260	R3/Foil/R0 Single G/ No shade	\$4,993	R5/Foil/R0 Single G, Tint/ Eaves
Brisbane	Medium one storey	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	3740	R3/R0/R0 Single G/ No shade	\$3,777	R5/50mmP/R0 Single G, Tint/ No shade
Brisbane	Medium one storey	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	4080	R3/R0/R0 Single G/ No shade	\$3,900	R5/47mmP/R0 Single G, Tint/ No shade
Brisbane	Medium one storey	Timb	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	6610	R3/R1.5/R0 Single G/ No shade	\$5,936	R5/R2/R0 Single G, Tint/ Eaves
Brisbane	Medium one storey	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	5870	R3/Foil/R0 Single G/ No shade	\$5,294	R5/R2/R0 Single G, Tint/ Eaves
Brisbane	Medium one storey	Timb	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	4170	R3/R0/R0 Single G/ No shade	\$4,008	R5/50mmP/R0 Single G, Tint/ No shade
Brisbane	Medium one storey	Timb	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	4540	R3/R0/R0 Single G/ No shade	\$4,064	R5/47mmP/R0 Single G, Tint/ No shade
Brisbane	Passive Solar	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	8320	R3/R1.5/R0 Single G, Tint/ No shade	\$4,864	R5/R2/R0 Single G, Tint/ Verandah
Brisbane	Passive Solar	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	7510	R3/Foil/R0 Single G, Tint/ No shade	\$4,063	R5/R2+F/R0 Single G, Tint/ Verandah
Brisbane	Passive Solar	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Verandah	5650	R3/R0/R0 Single G/ No shade	\$2,709	R5/30mmP/R0 Single G, Tint/ Eaves
Brisbane	Passive Solar	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Verandah	6070	R3/R0/R0 Single G/ No shade	\$2,904	#N/A
Brisbane	Passive Solar	Timb	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	9440	R3/R2/R0 Single G, Tint/ No shade	\$6,229	R5/R2/R0 Single G, Tint/ Verandah
Brisbane	Passive Solar	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	8450	R3/Foil/R0 Single G, Tint/ No shade	\$5,145	R5/R2+F/R0 Single G, Tint/ Verandah
Brisbane	Passive Solar	Timb	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Verandah	6210	R3/R0/R0 Single G, Tint/ No shade	\$3,306	R3/50mmP/R0 Single G/ Verandah
Brisbane	Passive Solar	Timb	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Verandah	6670	R3/R0/R0 Single G, Tint/ No shade	\$3,363	R5/47mmP/R0 Single G, Tint/ Eaves
Brisbane	Small one storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	5790	R3/Foil/R0 Single G/ No shade	\$4,841	R5/R2/R0 Single G, Tint/ Eaves
Brisbane	Small one storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	5000	R3/Foil/R0 Single G/ No shade	\$4,086	R5/R2+F/R0 Single G, Tint/ Eaves
Brisbane	Small one storey	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	3460	R3/R0/R0 Single G/ No shade	\$2,903	R3/30mmP/R0 Single G/ Eaves
Brisbane	Small one storey	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	3930	R3/R0/R0 Single G/ No shade	\$3,101	R5/38mmP/R0 Single G, Tint/ No shade
Brisbane	Small one storey	Timb	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	6480	R3/R2/R0 Single G, Tint/ No shade	\$5,570	R5/R2/R0 Single G, Tint/ Eaves
Brisbane	Small one storey	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	5560	R3/Foil/R0 Single G, Tint/ No shade	\$4,622	R5/R2+F/R0 Single G, Tint/ Eaves
Brisbane	Small one storey	Timb	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	3860	R3/R0/R0 Single G/ No shade	\$3,167	#N/A
Brisbane	Small one storey	Timb	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	4390	R3/R0/R0 Single G/ No shade	\$3,279	R5/47mmP/R0 Single G, Tint/ No shade
Brisbane	Townhouse	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	3000	R3/R1.5/R0 Single G, Tint/ No shade	\$1,653	R5/R2/R0 Single G, Tint/ Eaves
Brisbane	Townhouse	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	2820	R3/Foil/R0 Single G, Tint/ No shade	\$1,518	R5/R2+F/R0 Single G, Tint/ Eaves
Brisbane	Townhouse	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Verandah	2170	R3/R0/R0 Single G, Tint/ No shade	\$949	R5/50mmP/R0 Single G, Tint/ Eaves
Brisbane	Townhouse	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Verandah	2230	R3/R0/R0 Single G, Tint/ No shade	\$928	#N/A
Brisbane	Townhouse	Timb	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	3120	R3/R2/R0 Single G, Tint/ No shade	\$1,876	R5/R2/R0 Single G, Tint/ Eaves
Brisbane	Townhouse	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	2910	R3/Foil/R0 Single G, Tint/ No shade	\$1,677	R5/R2+F/R0 Single G, Tint/ Eaves
Brisbane	Townhouse	Timb	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Verandah	2130	R3/R0/R0 Single G, Tint/ No shade	\$966	R5/50mmP/R0 Single G, Tint/ Eaves
Brisbane	Townhouse	Timb	Conc Block	R5/47mmP/Foil Dbl G, low-E/ Verandah	2190	R3/R0/R0 Single G/ No shade	\$951	R3/28mmP/R0 Single G, Tint/ Eaves

Region	Design	Floor	Wall	Max CO <sub>2</sub> Savings (Option)	Max CO <sub>2</sub> (kg)	Max Net PV (Option)	Max NEV PV (\$)	Nearest and below
Canberra	Cross vent tropics	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	10340	R3/R2/R0 Single G/ No shade	\$18,944	R5/R2/R0 Dbl G, low-E/ Awning
Canberra	Cross vent tropics	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	9610	R3/R2+F/R0 Single G/ No shade	\$17,545	R5/R2+F/R0 Dbl G, low-E/ Awning
Canberra	Cross vent tropics	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	9150	R5/50mmP/R0 Single G/ No shade	\$16,674	R5/50mmP/R0 Dbl G/ Awning
Canberra	Cross vent tropics	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	10510	R5/47mmP/R0 Single G/ No shade	\$18,680	R5/47mmP/R0 Dbl G, low-E/ Awning
Canberra	Cross vent tropics	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Eaves	11050	R3/R2/Foil Single G/ No shade	\$18,873	R5/R2/R2 Dbl G, low-E/ Eaves
Canberra	Cross vent tropics	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Eaves	10150	R3/R2+F/Foil Single G/ No shade	\$17,328	R5/R2+F/R2 Dbl G, low-E/ Eaves
Canberra	Cross vent tropics	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	9740	R5/50mmP/Foil Single G/ No shade	\$17,111	R5/50mmP/Foil Dbl G, low-E/ Awning
Canberra	Cross vent tropics	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	11180	R5/47mmP/Foil Single G/ No shade	\$19,272	R5/47mmP/R2 Dbl G, low-E/ Awning
Canberra	Large two storey	Conc	Weatherboard	R5/R2/Poly Dbl G, low-E/ Awning	11830	R5/R2/R0 Single G/ No shade	\$22,266	R5/R2/Poly Dbl G, low-E/ Awning
Canberra	Large two storey	Conc	Brick Veneer	R5/R2+F/Poly Dbl G, low-E/ Awning	10900	R3/R2+F/R0 Single G/ No shade	\$20,477	R5/R2+F/Poly Dbl G, low-E/ Awning
Canberra	Large two storey	Conc	Double Brick	R5/50mmP/Poly Dbl G, low-E/ Awning	9970	R5/50mmP/R0 Single G/ No shade	\$17,980	R5/50mmP/R0 Dbl G/ Awning
Canberra	Large two storey	Conc	Conc Block	R5/47mmP/Poly Dbl G, low-E/ Awning	12370	R5/47mmP/R0 Single G/ No shade	\$21,501	R5/47mmP/Poly Dbl G, low-E/ Awning
Canberra	Large two storey	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Awning	12520	R3/R2/Foil Single G/ No shade	\$23,124	R5/R2/R2 Dbl G, low-E/ Awning
Canberra	Large two storey	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Awning	11520	R3/R2+F/Foil Single G/ No shade	\$21,253	R5/R2+F/R2 Dbl G, low-E/ Awning
Canberra	Large two storey	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	10680	R5/50mmP/Foil Single G/ No shade	\$18,988	R5/50mmP/R2 Dbl G, low-E/ Awning
Canberra	Large two storey	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	13200	R5/47mmP/Foil Single G/ No shade	\$22,687	R5/47mmP/R2 Dbl G, low-E/ Awning
Canberra	Medium one storey	Conc	Weatherboard	R5/R2/Poly Dbl G, low-E/ Awning	10060	R5/R2/R0 Single G/ No shade	\$20,367	R5/R2/Poly Dbl G, low-E/ Awning
Canberra	Medium one storey	Conc	Brick Veneer	R5/R2+F/Poly Dbl G, low-E/ Awning	9650	R5/R2/R0 Single G/ No shade	\$19,516	R5/R2+F/Poly Dbl G, low-E/ Awning
Canberra	Medium one storey	Conc	Double Brick	R5/50mmP/Poly Dbl G, low-E/ Awning	9320	R5/50mmP/R0 Single G/ No shade	\$19,604	R5/50mmP/Poly Dbl G, low-E/ Awning
Canberra	Medium one storey	Conc	Conc Block	R5/47mmP/Poly Dbl G, low-E/ Awning	10320	R5/47mmP/R0 Single G/ No shade	\$21,033	R5/47mmP/Poly Dbl G, low-E/ Awning
Canberra	Medium one storey	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Awning	10710	R3/R2/Foil Single G/ No shade	\$20,335	R5/R2/R2 Dbl G, low-E/ Awning
Canberra	Medium one storey	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Awning	10230	R3/R2/Foil Single G/ No shade	\$19,434	R5/R2+F/R2 Dbl G, low-E/ Awning
Canberra	Medium one storey	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	10180	R5/50mmP/Foil Single G/ No shade	\$20,382	R5/50mmP/R2 Dbl G, low-E/ Awning
Canberra	Medium one storey	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	11270	R5/47mmP/Foil Single G/ No shade	\$22,040	R5/47mmP/R2 Dbl G, low-E/ Awning
Canberra	Passive Solar	Conc	Weatherboard	R5/R2/Poly Dbl G, low-E/ Awning	10020	R3/R2/R0 Single G/ No shade	\$17,684	R5/R2/Poly Dbl G, low-E/ Eaves
Canberra	Passive Solar	Conc	Brick Veneer	R5/R2+F/Poly Dbl G, low-E/ Awning	9400	R3/R2+F/R0 Single G/ No shade	\$16,464	R5/R2+F/Poly Dbl G, low-E/ Eaves
Canberra	Passive Solar	Conc	Double Brick	R5/50mmP/Poly Dbl G, low-E/ Awning	9140	R3/50mmP/R0 Single G/ No shade	\$16,290	R5/50mmP/Poly Dbl G, low-E/ Eaves
Canberra	Passive Solar	Conc	Conc Block	R5/47mmP/Poly Dbl G, low-E/ Awning	10210	R3/47mmP/R0 Single G/ No shade	\$17,973	R5/47mmP/R0 Dbl G/ Awning
Canberra	Passive Solar	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Verandah	10750	R3/R2/Foil Single G/ No shade	\$17,716	R5/R2/R2 Dbl G, low-E/ Verandah
Canberra	Passive Solar	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Eaves	9980	R3/R2+F/Foil Single G/ No shade	\$16,361	R5/R2+F/R2 Dbl G, low-E/ Eaves
Canberra	Passive Solar	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	9820	R3/50mmP/Foil Single G/ No shade	\$17,025	R5/50mmP/R2 Dbl G, low-E/ Eaves
Canberra	Passive Solar	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	11000	R3/47mmP/Foil Single G/ No shade	\$18,967	R5/47mmP/Foil Dbl G, low-E/ Awning
Canberra	Small one storey	Conc	Weatherboard	R5/R2/Poly Dbl G, low-E/ Awning	9100	R3/R2/R0 Single G/ No shade	\$18,292	R5/R2/Poly Dbl G, low-E/ Awning
Canberra	Small one storey	Conc	Brick Veneer	R5/R2+F/Poly Dbl G, low-E/ Awning	8570	R3/Foil/R0 Single G/ No shade	\$17,674	R5/R2+F/Poly Dbl G, low-E/ Awning
Canberra	Small one storey	Conc	Double Brick	R5/50mmP/Poly Dbl G, low-E/ Awning	8130	R5/50mmP/R0 Single G/ No shade	\$16,859	R5/50mmP/Poly Dbl G, low-E/ Awning
Canberra	Small one storey	Conc	Conc Block	R5/47mmP/Poly Dbl G, low-E/ Awning	9290	R5/47mmP/R0 Single G/ No shade	\$18,676	R5/47mmP/Poly Dbl G, low-E/ Awning
Canberra	Small one storey	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Awning	9640	R3/R2/Foil Single G/ No shade	\$18,303	R5/R2/R2 Dbl G, low-E/ Awning
Canberra	Small one storey	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Awning	9040	R3/R2+F/Foil Single G/ No shade	\$17,196	R5/R2+F/R2 Dbl G, low-E/ Awning
Canberra	Small one storey	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	8860	R3/50mmP/Foil Single G/ No shade	\$17,613	R5/50mmP/R2 Dbl G, low-E/ Awning
Canberra	Small one storey	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	10110	R5/47mmP/Foil Single G/ No shade	\$19,606	R5/47mmP/R2 Dbl G, low-E/ Awning
Canberra	Townhouse	Conc	Weatherboard	R5/R2/Poly Dbl G, low-E/ Awning	3630	R3/R2/R0 Single G/ No shade	\$6,175	R5/R2/Poly Dbl G, low-E/ Eaves
Canberra	Townhouse	Conc	Brick Veneer	R5/R2+F/Poly Dbl G, low-E/ Awning	3480	R3/R2+F/R0 Single G/ No shade	\$5,867	R5/R2+F/R0 Dbl G, low-E/ Eaves
Canberra	Townhouse	Conc	Double Brick	R5/50mmP/Poly Dbl G, low-E/ Awning	3210	R3/50mmP/R0 Single G/ No shade	\$5,425	R5/50mmP/Poly Dbl G, low-E/ Eaves
Canberra	Townhouse	Conc	Conc Block	R5/47mmP/Poly Dbl G, low-E/ Awning	3610	R3/47mmP/R0 Single G/ No shade	\$6,184	R5/47mmP/Poly Dbl G, low-E/ Eaves
Canberra	Townhouse	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Awning	3890	R3/R2/Foil Single G/ No shade	\$6,567	R5/R2/R2 Dbl G, low-E/ Eaves
Canberra	Townhouse	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Awning	3720	R3/R2+F/Foil Single G/ No shade	\$6,221	R5/R2+F/R2 Dbl G, low-E/ Eaves
Canberra	Townhouse	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	3480	R3/50mmP/Foil Single G/ No shade	\$5,866	R5/50mmP/R2 Dbl G, low-E/ Eaves
Canberra	Townhouse	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	3900	R3/47mmP/Foil Single G/ No shade	\$6,722	R5/47mmP/R2 Dbl G/ Awning

Region	Design	Floor	Wall	Max CO <sub>2</sub> Savings (Option)	Max CO <sub>2</sub> (kg)	Max Net PV (Option)	Max NEV PV (\$)	Nearest and below
Darwin	Cross vent tropics	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	10060	R3/R2/R0 Single G, Tint/ No shade	\$12,196	R5/R2/R0 Single G, Tint/ Awning
Darwin	Cross vent tropics	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	9660	R3/Foil/R0 Single G, Tint/ No shade	\$11,248	R5/R2+F/R0 Single G, Tint/ Awning
Darwin	Cross vent tropics	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	9010	R3/R0/R0 Single G, Tint/ No shade	\$8,957	R5/50mmP/R0 Single G, Tint/ Awning
Darwin	Cross vent tropics	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	9950	R3/28mmP/R0 Single G, Tint/ No shade	\$9,672	R5/47mmP/R0 Single G, Tint/ Awning
Darwin	Cross vent tropics	Timb	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	10380	R3/R2/R0 Single G, Tint/ No shade	\$13,113	R5/R2/R0 Single G, Tint/ Awning
Darwin	Cross vent tropics	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	9900	R3/Foil/R0 Single G, Tint/ No shade	\$11,879	R5/R2+F/R0 Single G, Tint/ Awning
Darwin	Cross vent tropics	Timb	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	9160	R3/R0/R0 Single G, Tint/ No shade	\$9,287	R5/50mmP/R0 Single G, Tint/ Awning
Darwin	Cross vent tropics	Timb	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	10180	R3/28mmP/R0 Single G, Tint/ No shade	\$10,303	R5/47mmP/R0 Single G, Tint/ Awning
Darwin	Large two storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	11320	R3/R2/R0 Single G, Tint/ No shade	\$14,480	R5/R2/R0 Single G, Tint/ Awning
Darwin	Large two storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	10700	R3/R2/R0 Single G, Tint/ No shade	\$12,522	R5/R2+F/R0 Single G, Tint/ Awning
Darwin	Large two storey	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	9560	R3/R0/R0 Single G, Tint/ No shade	\$9,157	R5/50mmP/R0 Single G, Tint/ Awning
Darwin	Large two storey	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	11210	R3/28mmP/R0 Single G, Tint/ No shade	\$9,838	R5/47mmP/R0 Single G, Tint/ Awning
Darwin	Large two storey	Timb	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	11510	R3/R2/R0 Single G, Tint/ No shade	\$15,045	R5/R2/R0 Single G, Tint/ Awning
Darwin	Large two storey	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	10820	R3/R2/R0 Single G, Tint/ No shade	\$12,874	R5/R2+F/R0 Single G, Tint/ Awning
Darwin	Large two storey	Timb	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	9570	R3/R0/R0 Single G, Tint/ No shade	\$9,123	R5/50mmP/R0 Single G, Tint/ Awning
Darwin	Large two storey	Timb	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	11300	R3/28mmP/R0 Single G, Tint/ No shade	\$10,155	R5/47mmP/R0 Single G, Tint/ Awning
Darwin	Medium one storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	9090	R3/R2/R0 Single G, Tint/ No shade	\$11,632	R5/R2/R0 Single G, Tint/ Awning
Darwin	Medium one storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	8770	R3/Foil/R0 Single G, Tint/ No shade	\$11,106	R5/R2+F/R0 Single G, Tint/ Awning
Darwin	Medium one storey	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Verandah	8010	R3/R0/R0 Single G, Tint/ No shade	\$8,986	R5/50mmP/R0 Single G, Tint/ Awning
Darwin	Medium one storey	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Verandah	8640	R3/R0/R0 Single G, Tint/ No shade	\$8,979	R5/47mmP/R0 Single G, Tint/ Awning
Darwin	Medium one storey	Timb	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	9330	R3/R2/R0 Single G, Tint/ No shade	\$12,274	R5/R2/R0 Single G, Tint/ Awning
Darwin	Medium one storey	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	8950	R3/Foil/R0 Single G, Tint/ No shade	\$11,566	R5/R2+F/R0 Single G, Tint/ Awning
Darwin	Medium one storey	Timb	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Verandah	8080	R3/R0/R0 Single G, Tint/ No shade	\$9,090	R5/50mmP/R0 Single G, Tint/ Awning
Darwin	Medium one storey	Timb	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Verandah	8780	R3/28mmP/R0 Single G, Tint/ No shade	\$9,190	R5/47mmP/R0 Single G, Tint/ Awning
Darwin	Passive Solar	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	11530	R3/R1.5/R0 Single G/ Verandah	\$18,271	R5/R2/R0 Dbl G, low-E/ Verandah
Darwin	Passive Solar	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	11200	R3/Foil/R0 Single G/ Verandah	\$17,737	R5/R2+F/R0 Dbl G, low-E/ Verandah
Darwin	Passive Solar	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Verandah	10610	R3/R0/R0 Single G/ Verandah	\$16,204	R5/50mmP/R0 Dbl G, low-E/ Verandah
Darwin	Passive Solar	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Verandah	11320	R3/R0/R0 Single G/ Verandah	\$17,036	R5/47mmP/R0 Dbl G, low-E/ Verandah
Darwin	Passive Solar	Timb	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	11790	R3/R1.5/R0 Single G, Tint/ Verandah	\$18,949	R5/R2/R0 Dbl G, low-E/ Verandah
Darwin	Passive Solar	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	11380	R3/Foil/R0 Single G, Tint/ Verandah	\$18,184	R5/R2+F/R0 Dbl G, low-E/ Verandah
Darwin	Passive Solar	Timb	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Verandah	10630	R3/R0/R0 Single G/ Verandah	\$16,244	R5/50mmP/R0 Dbl G, low-E/ Verandah
Darwin	Passive Solar	Timb	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Verandah	11420	R3/R0/R0 Single G/ Verandah	\$17,133	R5/47mmP/R0 Dbl G, low-E/ Verandah
Darwin	Small one storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	8740	R3/R2/R0 Single G, Tint/ No shade	\$10,849	R5/R2/R0 Dbl G/ Awning
Darwin	Small one storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	8350	R3/Foil/R0 Single G, Tint/ No shade	\$10,110	R5/R2+F/R0 Single G, Tint/ Awning
Darwin	Small one storey	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Verandah	7590	R3/R0/R0 Single G, Tint/ No shade	\$7,911	R5/50mmP/R0 Single G, Tint/ Awning
Darwin	Small one storey	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Verandah	8350	R3/28mmP/R0 Single G, Tint/ No shade	\$8,180	R5/47mmP/R0 Single G, Tint/ Awning
Darwin	Small one storey	Timb	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	8990	R3/R2/R0 Single G, Tint/ No shade	\$11,483	R3/R2/R0 Dbl G, low-E/ Awning
Darwin	Small one storey	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	8540	R3/Foil/R0 Single G, Tint/ No shade	\$10,549	R5/R2+F/R0 Single G, Tint/ Awning
Darwin	Small one storey	Timb	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Verandah	7680	R3/R0/R0 Single G, Tint/ No shade	\$8,025	R5/50mmP/R0 Single G, Tint/ Awning
Darwin	Small one storey	Timb	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Verandah	8500	R3/28mmP/R0 Single G, Tint/ No shade	\$8,543	R5/47mmP/R0 Single G, Tint/ Awning
Darwin	Townhouse	Conc	Weatherboard	Foil+R3/R2/R0 Dbl G, low-E/ Verandah	4570	R3/R2/R0 Single G, Tint/ Verandah	\$4,852	R3/R2/R0 Dbl G, low-E/ Verandah
Darwin	Townhouse	Conc	Brick Veneer	Foil+R3/R2+F/R0 Dbl G, low-E/ Verandah	4480	R3/Foil/R0 Single G, Tint/ Verandah	\$4,706	Foil+R3/R2+F/R0 Dbl G/ Verandah
Darwin	Townhouse	Conc	Double Brick	Foil+R3/50mmP/R0 Dbl G, low-E/ Verandah	4230	R3/R0/R0 Single G, Tint/ Verandah	\$4,030	Foil+R3/50mmP/R0 Single G, Tint/ Verandah
Darwin	Townhouse	Conc	Conc Block	Foil+R3/47mmP/R0 Dbl G, low-E/ Verandah	4450	R3/R0/R0 Single G, Tint/ Verandah	\$4,234	R3/47mmP/R0 Dbl G/ Verandah
Darwin	Townhouse	Timb	Weatherboard	Foil+R3/R2/R0 Dbl G, low-E/ Verandah	4600	R3/R2/R0 Single G, Tint/ Verandah	\$4,895	R3/R2/R0 Dbl G, low-E/ Verandah
Darwin	Townhouse	Timb	Brick Veneer	Foil+R3/R2+F/R0 Dbl G, low-E/ Verandah	4500	R3/Foil/R0 Single G, Tint/ Verandah	\$4,689	Foil+R3/R2+F/R0 Dbl G/ Verandah
Darwin	Townhouse	Timb	Double Brick	Foil+R3/50mmP/R0 Dbl G, low-E/ Verandah	4200	R3/R0/R0 Single G/ Verandah	\$3,890	Foil+R3/50mmP/R0 Single G, Tint/ Verandah
Darwin	Townhouse	Timb	Conc Block	Foil+R3/47mmP/R0 Dbl G, low-E/ Verandah	4440	R3/R0/R0 Single G/ Verandah	\$4,113	Foil+R3/47mmP/R0 Single G, Tint/ Verandah

Region	Design	Floor	Wall	Max CO <sub>2</sub> Savings (Option)	Max CO <sub>2</sub> (kg)	Max Net PV (Option)	Max NEV PV (\$)	Nearest and below
Hobart	Cross vent tropics	Conc	Weatherboard	R5/R2/Poly Dbl G, low-E/ Awning	250	R5/R2/R0 Single G/ No shade	\$18,911	R5/R2/Poly Dbl G, low-E/ Awning
Hobart	Cross vent tropics	Conc	Brick Veneer	R5/R2+F/Poly Dbl G, low-E/ Awning	240	R5/R2+F/R0 Single G/ No shade	\$18,202	R5/R2+F/Poly Dbl G, low-E/ Awning
Hobart	Cross vent tropics	Conc	Double Brick	R5/50mmP/Poly Dbl G, low-E/ Awning	250	R5/50mmP/R0 Single G/ No shade	\$18,260	R5/50mmP/Poly Dbl G, low-E/ Awning
Hobart	Cross vent tropics	Conc	Conc Block	R5/47mmP/Poly Dbl G, low-E/ Awning	280	R5/47mmP/R0 Single G/ No shade	\$19,676	R5/47mmP/Poly Dbl G, low-E/ Awning
Hobart	Cross vent tropics	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Awning	260	R5/R2/Foil Single G/ No shade	\$18,996	R5/R2/R2 Dbl G, low-E/ Awning
Hobart	Cross vent tropics	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Awning	250	R5/R2+F/Foil Single G/ No shade	\$18,223	R5/R2+F/R2 Dbl G, low-E/ Awning
Hobart	Cross vent tropics	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	270	R5/50mmP/Foil Single G/ No shade	\$19,160	R5/50mmP/R2 Dbl G, low-E/ Awning
Hobart	Cross vent tropics	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	300	R5/47mmP/Foil Single G/ No shade	\$20,687	R5/47mmP/R2 Dbl G, low-E/ Awning
Hobart	Large two storey	Conc	Weatherboard	R5/R2/Poly Dbl G, low-E/ Awning	290	R5/R2/R0 Single G/ No shade	\$22,439	R5/R2/Poly Dbl G, low-E/ Awning
Hobart	Large two storey	Conc	Brick Veneer	R5/R2+F/Poly Dbl G, low-E/ Awning	280	R5/R2+F/R0 Single G/ No shade	\$21,527	R5/R2+F/Poly Dbl G, low-E/ Awning
Hobart	Large two storey	Conc	Double Brick	R5/50mmP/Poly Dbl G, low-E/ Awning	280	R5/50mmP/R0 Single G/ No shade	\$20,453	R5/50mmP/Poly Dbl G, low-E/ Awning
Hobart	Large two storey	Conc	Conc Block	R5/47mmP/Poly Dbl G, low-E/ Awning	340	R5/38mmP/R0 Single G/ No shade	\$22,246	R5/47mmP/Poly Dbl G, low-E/ Awning
Hobart	Large two storey	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Awning	310	R5/R2/Foil Single G/ No shade	\$23,434	R5/R2/R2 Dbl G, low-E/ Awning
Hobart	Large two storey	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Awning	300	R5/R2+F/Foil Single G/ No shade	\$22,550	R5/R2+F/R2 Dbl G, low-E/ Awning
Hobart	Large two storey	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	300	R5/50mmP/Foil Single G/ No shade	\$21,846	R5/50mmP/R2 Dbl G, low-E/ Awning
Hobart	Large two storey	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	370	R5/38mmP/Foil Single G/ No shade	\$23,762	R5/47mmP/R2 Dbl G, low-E/ Awning
Hobart	Medium one storey	Conc	Weatherboard	R5/R2/Poly Dbl G, low-E/ Awning	260	R5/R2/R0 Single G/ No shade	\$20,657	R5/R2/Poly Dbl G, low-E/ Awning
Hobart	Medium one storey	Conc	Brick Veneer	R5/R2+F/Poly Dbl G, low-E/ Awning	260	R5/R2+F/R0 Single G/ No shade	\$20,270	R5/R2+F/Poly Dbl G, low-E/ Awning
Hobart	Medium one storey	Conc	Double Brick	R5/50mmP/Poly Dbl G, low-E/ No shade	270	R5/50mmP/R0 Single G/ No shade	\$21,599	R5/50mmP/Poly Dbl G, low-E/ No shade
Hobart	Medium one storey	Conc	Conc Block	R5/47mmP/Poly Dbl G, low-E/ No shade	300	R5/47mmP/R0 Single G/ No shade	\$22,610	R5/47mmP/Poly Dbl G, low-E/ No shade
Hobart	Medium one storey	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Awning	270	R5/R2/Foil Single G/ No shade	\$20,801	R5/R2/R2 Dbl G, low-E/ Awning
Hobart	Medium one storey	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Awning	270	R5/R2+F/Foil Single G/ No shade	\$20,415	R5/R2+F/R2 Dbl G, low-E/ Awning
Hobart	Medium one storey	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	300	R5/50mmP/Foil Single G/ No shade	\$22,822	R5/50mmP/R2 Dbl G, low-E/ Awning
Hobart	Medium one storey	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	330	R5/47mmP/Foil Single G/ No shade	\$23,999	R5/47mmP/R2 Dbl G, low-E/ Awning
Hobart	Passive Solar	Conc	Weatherboard	R5/R2/Poly Dbl G, low-E/ Awning	230	R5/R2/R0 Single G/ No shade	\$17,518	R5/R2/Poly Dbl G, low-E/ No shade
Hobart	Passive Solar	Conc	Brick Veneer	R5/R2+F/Poly Dbl G, low-E/ Awning	230	R3/R2+F/R0 Single G/ No shade	\$16,825	R5/R2+F/Poly Dbl G, low-E/ No shade
Hobart	Passive Solar	Conc	Double Brick	R5/50mmP/Poly Dbl G, low-E/ Awning	240	R5/50mmP/R0 Single G/ No shade	\$17,584	R5/50mmP/Poly Dbl G, low-E/ No shade
Hobart	Passive Solar	Conc	Conc Block	R5/47mmP/Poly Dbl G, low-E/ Awning	260	R5/47mmP/R0 Single G/ No shade	\$18,870	R5/47mmP/Poly Dbl G, low-E/ No shade
Hobart	Passive Solar	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Awning	250	R3/R2/Foil Single G/ No shade	\$17,832	R5/R2/R2 Dbl G, low-E/ No shade
Hobart	Passive Solar	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Awning	240	R3/R2+F/Foil Single G/ No shade	\$17,093	R5/R2+F/R2 Dbl G, low-E/ No shade
Hobart	Passive Solar	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	260	R5/50mmP/Foil Single G/ No shade	\$18,854	R5/50mmP/R2 Dbl G, low-E/ Awning
Hobart	Passive Solar	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	290	R5/47mmP/Foil Single G/ No shade	\$20,355	R5/47mmP/R2 Dbl G, low-E/ Awning
Hobart	Small one storey	Conc	Weatherboard	R5/R2/Poly Dbl G, low-E/ Awning	220	R5/R2/R0 Single G/ No shade	\$18,375	R5/R2/Poly Dbl G, low-E/ Awning
Hobart	Small one storey	Conc	Brick Veneer	R5/R2+F/Poly Dbl G, low-E/ Awning	220	R5/Foil/R0 Single G/ No shade	\$18,119	R5/R2+F/Poly Dbl G, low-E/ Awning
Hobart	Small one storey	Conc	Double Brick	R5/50mmP/Poly Dbl G, low-E/ Awning	230	R5/50mmP/R0 Single G/ No shade	\$18,545	R5/50mmP/Poly Dbl G, low-E/ Awning
Hobart	Small one storey	Conc	Conc Block	R5/47mmP/Poly Dbl G, low-E/ Awning	260	R5/47mmP/R0 Single G/ No shade	\$19,895	R5/47mmP/Poly Dbl G, low-E/ Awning
Hobart	Small one storey	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Awning	240	R5/R2/Foil Single G/ No shade	\$18,597	R5/R2/R2 Dbl G, low-E/ Awning
Hobart	Small one storey	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Awning	240	R5/Foil/Foil Single G/ No shade	\$18,370	R5/R2+F/R2 Dbl G, low-E/ Awning
Hobart	Small one storey	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	250	R5/50mmP/Foil Single G/ No shade	\$19,723	R5/50mmP/R2 Dbl G, low-E/ Awning
Hobart	Small one storey	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	290	R5/47mmP/Foil Single G/ No shade	\$21,221	R5/47mmP/R2 Dbl G, low-E/ Awning
Hobart	Townhouse	Conc	Weatherboard	R5/R2/Poly Dbl G, low-E/ Awning	90	R5/R2/R0 Single G/ No shade	\$6,271	R5/R2/Poly Dbl G, low-E/ No shade
Hobart	Townhouse	Conc	Brick Veneer	R5/R2+F/Poly Dbl G, low-E/ Awning	90	R5/R2+F/R0 Single G/ No shade	\$6,055	R5/R2+F/Poly Dbl G, low-E/ No shade
Hobart	Townhouse	Conc	Double Brick	R5/50mmP/Poly Dbl G, low-E/ Awning	80	R5/50mmP/R0 Single G/ No shade	\$5,888	R5/50mmP/Poly Dbl G, low-E/ No shade
Hobart	Townhouse	Conc	Conc Block	R5/47mmP/Poly Dbl G, low-E/ Awning	100	R5/47mmP/R0 Single G/ No shade	\$6,518	R5/47mmP/Poly Dbl G, low-E/ No shade
Hobart	Townhouse	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Awning	100	R5/R2/Foil Single G/ No shade	\$6,790	R5/R2/R2 Dbl G, low-E/ Awning
Hobart	Townhouse	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Awning	100	R5/R2+F/Foil Single G/ No shade	\$6,560	R5/R2+F/R2 Dbl G, low-E/ Awning
Hobart	Townhouse	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	90	R5/50mmP/Foil Single G/ No shade	\$6,532	R5/50mmP/R2 Dbl G, low-E/ No shade
Hobart	Townhouse	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	110	R5/47mmP/Foil Single G/ No shade	\$7,272	R5/47mmP/R2 Dbl G, low-E/ Awning

Region	Design	Floor	Wall	Max CO <sub>2</sub> Savings (Option)	Max CO <sub>2</sub> (kg)	Max Net PV (Option)	Max NEV PV (\$)	Nearest and below
Longreach	Cross vent tropics	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	13820	R3/R2/R0 Single G, Tint/ No shade	\$8,503	R5/R2/R0 Single G, Tint/ Eaves
Longreach	Cross vent tropics	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	12690	R3/Foil/R0 Single G, Tint/ No shade	\$7,517	R5/R2+F/R0 Single G, Tint/ Eaves
Longreach	Cross vent tropics	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	11070	R3/R0/R0 Single G, Tint/ No shade	\$5,361	R5/50mmP/R0 Single G, Tint/ Eaves
Longreach	Cross vent tropics	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	12670	R3/R0/R0 Single G, Tint/ No shade	\$5,656	R5/47mmP/R0 Single G, Tint/ Eaves
Longreach	Cross vent tropics	Timb	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	14820	R3/R2/R0 Single G, Tint/ No shade	\$9,647	R5/R2/R0 Single G, Tint/ Awning
Longreach	Cross vent tropics	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	13480	R3/Foil/R0 Single G, Tint/ No shade	\$8,348	R5/R2+F/R0 Single G, Tint/ Eaves
Longreach	Cross vent tropics	Timb	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	11630	R3/R0/R0 Single G, Tint/ No shade	\$5,917	R5/50mmP/R0 Single G, Tint/ Eaves
Longreach	Cross vent tropics	Timb	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	13420	R3/R0/R0 Single G, Tint/ No shade	\$6,182	R5/47mmP/R0 Single G, Tint/ Eaves
Longreach	Large two storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	15580	R3/R2/R0 Single G, Tint/ No shade	\$9,802	R5/R2/R0 Single G, Tint/ Eaves
Longreach	Large two storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	13920	R3/Foil/R0 Single G, Tint/ No shade	\$8,652	R5/R2+F/R0 Single G, Tint/ Eaves
Longreach	Large two storey	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	11280	R3/R0/R0 Single G, Tint/ No shade	\$5,036	R5/50mmP/R0 Single G, Tint/ No shade
Longreach	Large two storey	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	13960	R3/R0/R0 Single G, Tint/ No shade	\$5,435	R5/47mmP/R0 Single G, Tint/ No shade
Longreach	Large two storey	Timb	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	16390	R3/R2/R0 Single G, Tint/ No shade	\$10,650	R5/R2/R0 Single G, Tint/ Awning
Longreach	Large two storey	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	14540	R3/Foil/R0 Single G, Tint/ No shade	\$9,198	R5/R2+F/R0 Single G, Tint/ Eaves
Longreach	Large two storey	Timb	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	11540	R3/R0/R0 Single G, Tint/ No shade	\$5,170	R5/50mmP/R0 Single G, Tint/ No shade
Longreach	Large two storey	Timb	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	14450	R3/R0/R0 Single G, Tint/ No shade	\$5,581	R5/47mmP/R0 Single G, Tint/ No shade
Longreach	Medium one storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	12690	R3/R1.5/R0 Single G, Tint/ No shade	\$8,031	R5/R2/R0 Single G, Tint/ Eaves
Longreach	Medium one storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	11920	R3/Foil/R0 Single G, Tint/ No shade	\$7,617	R5/R2+F/R0 Single G, Tint/ Eaves
Longreach	Medium one storey	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Verandah	9860	R3/R0/R0 Single G, Tint/ No shade	\$5,300	R5/30mmP/R0 Single G, Tint/ Eaves
Longreach	Medium one storey	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Verandah	10860	R3/R0/R0 Single G, Tint/ No shade	\$5,542	R5/47mmP/R0 Single G, Tint/ No shade
Longreach	Medium one storey	Timb	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	13710	R3/R2/R0 Single G, Tint/ No shade	\$9,078	R3/R2/R0 Single G, Tint/ Awning
Longreach	Medium one storey	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	12780	R3/Foil/R0 Single G, Tint/ No shade	\$8,437	R5/R2+F/R0 Single G, Tint/ Eaves
Longreach	Medium one storey	Timb	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Verandah	10410	R3/R0/R0 Single G, Tint/ No shade	\$5,776	R5/50mmP/R0 Single G, Tint/ Eaves
Longreach	Medium one storey	Timb	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Verandah	11550	R3/R0/R0 Single G, Tint/ No shade	\$5,997	R3/47mmP/R0 Single G, Tint/ Eaves
Longreach	Passive Solar	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	15850	R3/Foil/R0 Single G/ Verandah	\$10,178	R5/R2/R0 Dbl G/ Verandah
Longreach	Passive Solar	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	14900	R3/Foil/R0 Single G/ Verandah	\$9,378	R5/Foil/R0 Dbl G/ Verandah
Longreach	Passive Solar	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Verandah	12900	R3/R0/R0 Single G/ Verandah	\$6,898	R5/50mmP/R0 Single G, Tint/ Verandah
Longreach	Passive Solar	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Verandah	13990	R3/R0/R0 Single G/ Verandah	\$7,228	R5/47mmP/R0 Single G, Tint/ Verandah
Longreach	Passive Solar	Timb	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	16950	R3/R2/R0 Single G/ Verandah	\$11,334	R5/R2/R0 Dbl G, low-E/ Verandah
Longreach	Passive Solar	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	15820	R3/Foil/R0 Single G/ Verandah	\$10,283	R5/R2+F/R0 Dbl G/ Verandah
Longreach	Passive Solar	Timb	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Verandah	13370	R3/R0/R0 Single G/ Verandah	\$7,217	R5/50mmP/R0 Single G, Tint/ Verandah
Longreach	Passive Solar	Timb	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Verandah	14620	R3/R0/R0 Single G/ Verandah	\$7,541	R5/47mmP/R0 Single G, Tint/ Verandah
Longreach	Small one storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	12140	R3/R2/R0 Single G, Tint/ No shade	\$7,699	R5/R2/R0 Single G, Tint/ Awning
Longreach	Small one storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	11160	R3/Foil/R0 Single G, Tint/ No shade	\$7,013	R3/Foil/R0 Single G, Tint/ Awning
Longreach	Small one storey	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Verandah	9200	R3/R0/R0 Single G, Tint/ No shade	\$4,774	R5/50mmP/R0 Single G, Tint/ Eaves
Longreach	Small one storey	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Verandah	10430	R3/R0/R0 Single G, Tint/ No shade	\$5,049	R5/47mmP/R0 Single G, Tint/ Eaves
Longreach	Small one storey	Timb	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	13030	R3/R2/R0 Single G, Tint/ No shade	\$8,657	R5/R2/R0 Dbl G, low-E/ Eaves
Longreach	Small one storey	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	11890	R3/Foil/R0 Single G, Tint/ No shade	\$7,722	R5/R2+F/R0 Single G, Tint/ Awning
Longreach	Small one storey	Timb	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Verandah	9630	R3/R0/R0 Single G, Tint/ No shade	\$5,109	R5/50mmP/R0 Single G, Tint/ Eaves
Longreach	Small one storey	Timb	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Verandah	11000	R3/R0/R0 Single G, Tint/ No shade	\$5,380	R5/47mmP/R0 Single G, Tint/ Eaves
Longreach	Townhouse	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	5960	R3/R2/R0 Single G, Tint/ No shade	\$3,002	R5/R2/R0 Single G, Tint/ Verandah
Longreach	Townhouse	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	5720	R3/Foil/R0 Single G, Tint/ No shade	\$2,824	R5/R2+F/R0 Single G, Tint/ Verandah
Longreach	Townhouse	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Verandah	4930	R3/R0/R0 Single G, Tint/ No shade	\$2,059	R5/30mmP/R0 Single G/ Verandah
Longreach	Townhouse	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Verandah	5210	R3/R0/R0 Single G, Tint/ No shade	\$2,087	#N/A
Longreach	Townhouse	Timb	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	6100	R3/R2/R0 Single G, Tint/ No shade	\$3,173	R5/R2/R0 Single G, Tint/ Verandah
Longreach	Townhouse	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	5810	R3/Foil/R0 Single G, Tint/ No shade	\$2,930	R5/R2+F/R0 Single G, Tint/ Verandah
Longreach	Townhouse	Timb	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Verandah	4890	R3/R0/R0 Single G, Tint/ No shade	\$2,013	R3/50mmP/R0 Single G/ Verandah
Longreach	Townhouse	Timb	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Verandah	5190	R3/R0/R0 Single G, Tint/ No shade	\$2,037	#N/A

Region	Design	Floor	Wall	Max CO <sub>2</sub> Savings (Option)	Max CO <sub>2</sub> (kg)	Max Net PV (Option)	Max NEV PV (\$)	Nearest and below
Melbourne	Cross vent tropics	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	7700	R3/R2/R0 Single G/ No shade	\$10,112	R3/R2/R0 Dbl G/ Eaves
Melbourne	Cross vent tropics	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	7170	R3/Foil/R0 Single G/ No shade	\$9,221	R5/R2+F/R0 Dbl G, low-E/ No shade
Melbourne	Cross vent tropics	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	6720	R3/50mmP/R0 Single G/ No shade	\$8,199	R5/50mmP/R0 Dbl G/ No shade
Melbourne	Cross vent tropics	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	7810	R3/47mmP/R0 Single G/ No shade	\$8,246	R5/47mmP/R0 Dbl G/ No shade
Melbourne	Cross vent tropics	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Eaves	8260	R3/R2/R0 Single G/ No shade	\$10,035	R5/R2/Foil Dbl G/ Eaves
Melbourne	Cross vent tropics	Timb	Brick Veneer	R3/R2/Foil Dbl G, low-E/ Eaves	7310	R3/Foil/R0 Single G/ No shade	\$9,027	R5/R2+F/Foil Dbl G, low-E/ No shade
Melbourne	Cross vent tropics	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	7150	R3/50mmP/R0 Single G/ No shade	\$8,187	R3/50mmP/R0 Dbl G, low-E/ No shade
Melbourne	Cross vent tropics	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	8320	R3/47mmP/R0 Single G/ No shade	\$8,379	R3/47mmP/Foil Dbl G, low-E/ No shade
Melbourne	Large two storey	Conc	Weatherboard	R5/R2/Poly Dbl G, low-E/ Awning	8760	R3/R2/R0 Single G/ No shade	\$11,566	R5/R2/R0 Dbl G, low-E/ No shade
Melbourne	Large two storey	Conc	Brick Veneer	R5/R2+F/Poly Dbl G, low-E/ Awning	8100	R3/Foil/R0 Single G/ No shade	\$10,574	R5/R2+F/R0 Dbl G, low-E/ No shade
Melbourne	Large two storey	Conc	Double Brick	R5/50mmP/Poly Dbl G, low-E/ Awning	7220	R3/50mmP/R0 Single G/ No shade	\$8,363	R3/50mmP/R0 Dbl G, low-E/ No shade
Melbourne	Large two storey	Conc	Conc Block	R5/47mmP/Poly Dbl G, low-E/ Awning	9130	R3/38mmP/R0 Single G/ No shade	\$7,810	R5/47mmP/R0 Dbl G/ No shade
Melbourne	Large two storey	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Awning	9240	R3/R2/Foil Single G/ No shade	\$11,643	R5/R2/R2 Dbl G, low-E/ No shade
Melbourne	Large two storey	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Awning	8510	R3/Foil/Foil Single G/ No shade	\$10,581	R5/R2+F/R2 Dbl G, low-E/ No shade
Melbourne	Large two storey	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	7720	R3/50mmP/Foil Single G/ No shade	\$8,475	R3/50mmP/Foil Dbl G, low-E/ No shade
Melbourne	Large two storey	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	9730	R3/38mmP/Foil Single G/ No shade	\$8,091	R5/47mmP/Foil Dbl G/ No shade
Melbourne	Medium one storey	Conc	Weatherboard	R5/R2/Poly Dbl G, low-E/ Awning	7380	R3/R2/R0 Single G/ No shade	\$10,734	R5/R2/R0 Dbl G, low-E/ No shade
Melbourne	Medium one storey	Conc	Brick Veneer	R5/R2+F/Poly Dbl G, low-E/ Awning	7090	R3/Foil/R0 Single G/ No shade	\$10,324	R5/R2+F/R0 Dbl G, low-E/ No shade
Melbourne	Medium one storey	Conc	Double Brick	R5/50mmP/Poly Dbl G, low-E/ Awning	6720	R3/50mmP/R0 Single G/ No shade	\$9,599	R5/50mmP/Poly Dbl G, low-E/ No shade
Melbourne	Medium one storey	Conc	Conc Block	R5/47mmP/Poly Dbl G, low-E/ Awning	7500	R3/R0/R0 Single G/ No shade	\$9,204	R5/47mmP/Poly Dbl G, low-E/ No shade
Melbourne	Medium one storey	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Awning	7880	R3/R2/R0 Single G/ No shade	\$10,619	R5/R2/R2 Dbl G, low-E/ No shade
Melbourne	Medium one storey	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Awning	7530	R3/Foil/R0 Single G/ No shade	\$10,123	R5/R2+F/R2 Dbl G, low-E/ No shade
Melbourne	Medium one storey	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	7340	R3/50mmP/Foil Single G/ No shade	\$9,567	R5/50mmP/R2 Dbl G, low-E/ No shade
Melbourne	Medium one storey	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	8210	R3/47mmP/Foil Single G/ No shade	\$9,310	R5/47mmP/R2 Dbl G, low-E/ No shade
Melbourne	Passive Solar	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	7450	R3/R2/R0 Single G/ No shade	\$9,339	R5/R2/R0 Dbl G/ Eaves
Melbourne	Passive Solar	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	7000	R3/Foil/R0 Single G/ No shade	\$8,643	R3/Foil/R0 Dbl G/ Eaves
Melbourne	Passive Solar	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	6690	R3/50mmP/R0 Single G/ No shade	\$7,999	R5/50mmP/R0 Dbl G/ No shade
Melbourne	Passive Solar	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	7550	R3/47mmP/R0 Single G/ No shade	\$8,102	R5/47mmP/R0 Dbl G/ No shade
Melbourne	Passive Solar	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Verandah	8320	R3/R2/R0 Single G/ No shade	\$9,338	R5/R2/R2 Dbl G/ Eaves
Melbourne	Passive Solar	Timb	Brick Veneer	R5/R2+F/Foil Dbl G, low-E/ Eaves	7370	R3/Foil/R0 Single G/ No shade	\$8,500	R5/R2+F/R0 Dbl G/ Eaves
Melbourne	Passive Solar	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	7200	R3/50mmP/R0 Single G/ No shade	\$8,160	R5/50mmP/R2 Dbl G/ No shade
Melbourne	Passive Solar	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	8140	R3/47mmP/R0 Single G/ No shade	\$8,420	R3/47mmP/R0 Dbl G, low-E/ No shade
Melbourne	Small one storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	6680	R3/R2/R0 Single G/ No shade	\$9,713	R5/R2/R0 Dbl G, low-E/ Eaves
Melbourne	Small one storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	6280	R3/Foil/R0 Single G/ No shade	\$9,390	R5/R2+F/R0 Dbl G, low-E/ Eaves
Melbourne	Small one storey	Conc	Double Brick	R5/50mmP/Poly Dbl G, low-E/ Awning	5840	R3/50mmP/R0 Single G/ No shade	\$8,211	R5/50mmP/R0 Dbl G, low-E/ No shade
Melbourne	Small one storey	Conc	Conc Block	R5/47mmP/Poly Dbl G, low-E/ Awning	6750	R3/47mmP/R0 Single G/ No shade	\$8,089	R5/47mmP/R0 Dbl G, low-E/ No shade
Melbourne	Small one storey	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Awning	7100	R3/R2/R0 Single G/ No shade	\$9,660	R5/R2/R2 Dbl G, low-E/ Eaves
Melbourne	Small one storey	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Awning	6650	R3/Foil/R0 Single G/ No shade	\$9,261	R5/R2+F/Foil Dbl G, low-E/ Eaves
Melbourne	Small one storey	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	6360	R3/50mmP/R0 Single G/ No shade	\$8,252	R5/50mmP/R2 Dbl G, low-E/ No shade
Melbourne	Small one storey	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	7360	R3/47mmP/R0 Single G/ No shade	\$8,275	R5/47mmP/R2 Dbl G, low-E/ No shade
Melbourne	Townhouse	Conc	Weatherboard	R5/R2/Poly Dbl G, low-E/ Awning	2740	R3/R2/R0 Single G/ No shade	\$3,155	R5/R2/R0 Dbl G/ No shade
Melbourne	Townhouse	Conc	Brick Veneer	R5/R2+F/Poly Dbl G, low-E/ Awning	2630	R3/Foil/R0 Single G/ No shade	\$2,934	R5/R2+F/R0 Dbl G/ No shade
Melbourne	Townhouse	Conc	Double Brick	R5/50mmP/Poly Dbl G, low-E/ Awning	2390	R3/50mmP/R0 Single G/ No shade	\$2,578	R5/50mmP/R0 Single G, Tint/ Eaves
Melbourne	Townhouse	Conc	Conc Block	R5/47mmP/Poly Dbl G, low-E/ Awning	2690	R3/47mmP/R0 Single G/ No shade	\$2,656	R5/47mmP/R0 Single G/ Eaves
Melbourne	Townhouse	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Awning	2920	R3/R2/R0 Single G/ No shade	\$3,270	R3/R2/Foil Dbl G, low-E/ No shade
Melbourne	Townhouse	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ No shade	2480	R3/Foil/R0 Single G/ No shade	\$3,011	R5/R2+F/Foil Dbl G/ No shade
Melbourne	Townhouse	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	2560	R3/50mmP/R0 Single G/ No shade	\$2,669	R3/50mmP/R0 Dbl G/ No shade
Melbourne	Townhouse	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	2880	R3/47mmP/R0 Single G/ No shade	\$2,796	R3/47mmP/Foil Dbl G/ No shade

Region	Design	Floor	Wall	Max CO <sub>2</sub> Savings (Option)	Max CO <sub>2</sub> (kg)	Max Net PV (Option)	Max NEV PV (\$)	Nearest and below
Mildura	Cross vent tropics	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	9000	R3/R2/R0 Single G/ No shade	\$9,389	R5/R2/R0 Dbl G, low-E/ No shade
Mildura	Cross vent tropics	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	8430	R3/Foil/R0 Single G/ No shade	\$8,577	R3/R2/R0 Dbl G, low-E/ No shade
Mildura	Cross vent tropics	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	7990	R3/30mmP/R0 Single G/ No shade	\$7,650	R5/50mmP/R0 Dbl G/ No shade
Mildura	Cross vent tropics	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	9180	R3/47mmP/R0 Single G/ No shade	\$7,613	R5/47mmP/R0 Dbl G/ No shade
Mildura	Cross vent tropics	Timb	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	9340	R3/R2/R0 Single G, Tint/ No shade	\$9,417	R5/R2/R0 Dbl G/ Eaves
Mildura	Cross vent tropics	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	8680	R3/Foil/R0 Single G/ No shade	\$8,382	R5/R2/R0 Dbl G, low-E/ No shade
Mildura	Cross vent tropics	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	8350	R3/50mmP/R0 Single G/ No shade	\$7,623	R5/50mmP/R0 Dbl G/ No shade
Mildura	Cross vent tropics	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	9630	R3/47mmP/R0 Single G/ No shade	\$7,728	R5/47mmP/R0 Dbl G/ No shade
Mildura	Large two storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	10280	R3/R2/R0 Single G/ No shade	\$10,855	R5/R2/R0 Dbl G, low-E/ No shade
Mildura	Large two storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	9510	R3/Foil/R0 Single G/ No shade	\$9,927	R5/R2+F/R0 Dbl G, low-E/ No shade
Mildura	Large two storey	Conc	Double Brick	R5/50mmP/Poly Dbl G, low-E/ Awning	8500	R3/30mmP/R0 Single G/ No shade	\$7,764	R5/50mmP/R0 Dbl G/ No shade
Mildura	Large two storey	Conc	Conc Block	R5/47mmP/Poly Dbl G, low-E/ Awning	10620	R3/38mmP/R0 Single G/ No shade	\$7,101	R5/38mmP/R0 Dbl G/ No shade
Mildura	Large two storey	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Awning	10730	R3/R2/R0 Single G/ No shade	\$10,971	R5/R2/R2 Dbl G, low-E/ No shade
Mildura	Large two storey	Timb	Brick Veneer	R3/R2/Foil Dbl G, low-E/ Awning	9590	R3/Foil/R0 Single G/ No shade	\$9,928	R5/R2+F/R2 Dbl G, low-E/ No shade
Mildura	Large two storey	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	8990	R3/30mmP/R0 Single G/ No shade	\$7,809	R5/50mmP/Foil Dbl G/ No shade
Mildura	Large two storey	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	11200	R3/38mmP/R0 Single G/ No shade	\$7,299	R5/38mmP/Foil Dbl G/ No shade
Mildura	Medium one storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	8490	R3/R2/R0 Single G/ No shade	\$10,198	R5/R2/R0 Dbl G, low-E/ No shade
Mildura	Medium one storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	8180	R3/Foil/R0 Single G/ No shade	\$9,857	R5/R2+F/R0 Dbl G, low-E/ No shade
Mildura	Medium one storey	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	7710	R3/30mmP/R0 Single G/ No shade	\$9,164	R5/50mmP/R0 Dbl G, low-E/ No shade
Mildura	Medium one storey	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	8560	R3/R0/R0 Single G/ No shade	\$8,962	R5/47mmP/R0 Dbl G, low-E/ No shade
Mildura	Medium one storey	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Awning	8920	R3/R2/R0 Single G/ No shade	\$10,172	R5/R2/R2 Dbl G, low-E/ No shade
Mildura	Medium one storey	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Awning	8550	R3/Foil/R0 Single G/ No shade	\$9,712	R5/R2+F/R2 Dbl G, low-E/ No shade
Mildura	Medium one storey	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	8330	R3/30mmP/R0 Single G/ No shade	\$9,150	R5/50mmP/R2 Dbl G, low-E/ No shade
Mildura	Medium one storey	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	9270	R3/R0/R0 Single G/ No shade	\$8,868	R5/47mmP/R2 Dbl G, low-E/ No shade
Mildura	Passive Solar	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	8840	R3/R2/R0 Single G/ No shade	\$8,643	R5/R2/R0 Dbl G/ Eaves
Mildura	Passive Solar	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	8370	R3/Foil/R0 Single G/ No shade	\$8,009	R3/Foil/R0 Dbl G/ Eaves
Mildura	Passive Solar	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	8060	R3/30mmP/R0 Single G/ No shade	\$7,531	R5/50mmP/R0 Dbl G/ No shade
Mildura	Passive Solar	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	8990	R3/47mmP/R0 Single G/ No shade	\$7,552	R5/47mmP/R0 Dbl G/ No shade
Mildura	Passive Solar	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Verandah	9500	R3/R2/R0 Single G, Tint/ No shade	\$8,902	R5/R2/R0 Dbl G/ Eaves
Mildura	Passive Solar	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Verandah	8870	R3/Foil/R0 Single G, Tint/ No shade	\$7,994	R5/R2+F/R0 Dbl G/ Eaves
Mildura	Passive Solar	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	8500	R3/30mmP/R0 Single G/ No shade	\$7,648	R5/50mmP/R0 Dbl G/ No shade
Mildura	Passive Solar	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	9530	R3/47mmP/R0 Single G/ No shade	\$7,830	R5/47mmP/R0 Dbl G/ No shade
Mildura	Small one storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	7710	R3/R2/R0 Single G/ No shade	\$9,076	R5/R2/R0 Dbl G, low-E/ Eaves
Mildura	Small one storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	7280	R3/Foil/R0 Single G/ No shade	\$8,544	R5/R2+F/R0 Dbl G, low-E/ Eaves
Mildura	Small one storey	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	6760	R3/30mmP/R0 Single G/ No shade	\$7,767	R5/50mmP/R0 Dbl G, low-E/ No shade
Mildura	Small one storey	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	7770	R3/47mmP/R0 Single G/ No shade	\$7,567	R5/47mmP/R0 Dbl G, low-E/ No shade
Mildura	Small one storey	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Awning	8070	R3/R2/R0 Single G/ No shade	\$9,107	R5/R2/R2 Dbl G, low-E/ Eaves
Mildura	Small one storey	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Awning	7600	R3/Foil/R0 Single G/ No shade	\$8,450	R5/R2+F/Foil Dbl G, low-E/ Eaves
Mildura	Small one storey	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	7270	R3/50mmP/R0 Single G/ No shade	\$7,827	R5/50mmP/R2 Dbl G, low-E/ No shade
Mildura	Small one storey	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	8360	R3/47mmP/R0 Single G/ No shade	\$7,788	R5/47mmP/R2 Dbl G, low-E/ No shade
Mildura	Townhouse	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	3370	R3/R2/R0 Single G/ No shade	\$3,013	R3/R2/R0 Dbl G/ Eaves
Mildura	Townhouse	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	3240	R3/Foil/R0 Single G/ No shade	\$2,798	R5/R2+F/R0 Dbl G/ No shade
Mildura	Townhouse	Conc	Double Brick	R5/50mmP/Poly Dbl G, low-E/ Awning	2940	R3/50mmP/R0 Single G/ No shade	\$2,438	R5/50mmP/Poly Single G, Tint/ Eaves
Mildura	Townhouse	Conc	Conc Block	R5/47mmP/Poly Dbl G, low-E/ Awning	3260	R3/47mmP/R0 Single G/ No shade	\$2,488	R5/47mmP/Poly Single G, Tint/ Eaves
Mildura	Townhouse	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Awning	3510	R3/R2/R0 Single G/ No shade	\$3,118	R5/R2/R0 Dbl G/ Eaves
Mildura	Townhouse	Timb	Brick Veneer	R5/R2+F/R2 Dbl G/ Awning	3180	R3/Foil/R0 Single G/ No shade	\$2,855	R5/R2+F/R0 Dbl G/ No shade
Mildura	Townhouse	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	3070	R3/50mmP/R0 Single G/ No shade	\$2,516	R5/50mmP/R2 Single G, Tint/ Eaves
Mildura	Townhouse	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	3410	R3/47mmP/R0 Single G/ No shade	\$2,613	R5/47mmP/R2 Single G, Tint/ Eaves

Region	Design	Floor	Wall	Max CO <sub>2</sub> Savings (Option)	Max CO <sub>2</sub> (kg)	Max Net PV (Option)	Max NEV PV (\$)	Nearest and below
Perth	Cross vent tropics	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	8180	R3/R2/R0 Single G, Tint/ No shade	\$8,071	R5/R2/R0 Single G, Tint/ Eaves
Perth	Cross vent tropics	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	7190	R3/Foil/R0 Single G, Tint/ No shade	\$6,556	R5/R2+F/R0 Single G, Tint/ Eaves
Perth	Cross vent tropics	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	6230	R3/R0/R0 Single G/ No shade	\$5,003	R5/50mmP/R0 Single G, Tint/ Eaves
Perth	Cross vent tropics	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	7190	R3/R0/R0 Single G/ No shade	\$5,179	R5/47mmP/R0 Single G, Tint/ Eaves
Perth	Cross vent tropics	Timb	Weatherboard	R5/R2/R0 Dbl G, low-E/ Eaves	8990	R3/R2/R0 Single G, Tint/ No shade	\$9,438	R5/R2/R0 Dbl G/ Eaves
Perth	Cross vent tropics	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Eaves	7790	R3/Foil/R0 Single G, Tint/ No shade	\$7,623	R5/R2+F/R0 Single G, Tint/ Eaves
Perth	Cross vent tropics	Timb	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	6720	R3/R0/R0 Single G, Tint/ No shade	\$5,394	R5/50mmP/R2 Single G, Tint/ Eaves
Perth	Cross vent tropics	Timb	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	7760	R3/28mmP/R0 Single G, Tint/ No shade	\$5,800	R5/47mmP/R2 Single G, Tint/ Eaves
Perth	Large two storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	9040	R3/R2/R0 Single G, Tint/ No shade	\$8,917	R5/R2/R0 Dbl G, low-E/ No shade
Perth	Large two storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	7750	R3/Foil/R0 Single G, Tint/ No shade	\$7,199	R5/R2+F/R0 Single G, Tint/ Eaves
Perth	Large two storey	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	6250	R3/R0/R0 Single G/ No shade	\$4,524	R5/50mmP/R0 Single G, Tint/ No shade
Perth	Large two storey	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	7880	R3/R0/R0 Single G/ No shade	\$4,809	R5/47mmP/R0 Single G, Tint/ No shade
Perth	Large two storey	Timb	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	9470	R3/R2/R0 Single G, Tint/ No shade	\$9,638	R5/R2/R0 Dbl G, low-E/ No shade
Perth	Large two storey	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	8090	R3/Foil/R0 Single G, Tint/ No shade	\$7,698	R5/R2+F/Foil Single G, Tint/ Eaves
Perth	Large two storey	Timb	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	6510	R3/R0/R0 Single G/ No shade	\$4,603	R5/50mmP/Foil Single G, Tint/ No shade
Perth	Large two storey	Timb	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	8210	R3/R0/R0 Single G/ No shade	\$4,813	R5/47mmP/R2 Single G, Tint/ No shade
Perth	Medium one storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	7100	R3/R2/R0 Single G/ No shade	\$8,131	R5/R2/R0 Dbl G, low-E/ No shade
Perth	Medium one storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	6540	R3/Foil/R0 Single G/ No shade	\$7,493	R5/Foil/R0 Dbl G, low-E/ No shade
Perth	Medium one storey	Conc	Double Brick	R5/50mmP/R0 Dbl G/ Awning	5430	R3/R0/R0 Single G/ No shade	\$6,105	R5/30mmP/R0 Single G, Tint/ Eaves
Perth	Medium one storey	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	6140	R3/R0/R0 Single G/ No shade	\$6,212	R5/28mmP/R0 Single G, Tint/ Eaves
Perth	Medium one storey	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Verandah	7840	R3/R2/R0 Single G/ No shade	\$8,476	R3/R2/R0 Dbl G/ Eaves
Perth	Medium one storey	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Verandah	7110	R3/Foil/R0 Single G/ No shade	\$7,630	R5/R2/R0 Dbl G, low-E/ No shade
Perth	Medium one storey	Timb	Double Brick	R3/30mmP/R0 Dbl G/ Awning	5510	R3/R0/R0 Single G/ No shade	\$6,258	R5/30mmP/Foil Single G, Tint/ Eaves
Perth	Medium one storey	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	6530	R3/R0/R0 Single G/ No shade	\$6,318	R5/47mmP/Foil Single G, Tint/ Eaves
Perth	Passive Solar	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	9450	R3/R2/R0 Single G/ Eaves	\$8,097	R3/R2/R0 Dbl G/ Verandah
Perth	Passive Solar	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	8580	R3/Foil/R0 Single G/ Eaves	\$6,856	R5/R2+F/R0 Single G, Tint/ Verandah
Perth	Passive Solar	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Verandah	6740	R3/R0/R0 Single G, Tint/ No shade	\$4,737	R5/50mmP/R0 Single G/ Verandah
Perth	Passive Solar	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Verandah	7350	R3/R0/R0 Single G/ Eaves	\$4,903	R5/47mmP/R0 Single G/ Verandah
Perth	Passive Solar	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Verandah	10610	R3/R2/R0 Single G/ Verandah	\$9,581	R3/R2/R0 Dbl G, low-E/ Verandah
Perth	Passive Solar	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Verandah	9580	R3/Foil/R0 Single G, Tint/ No shade	\$7,784	R3/R2+F/R0 Dbl G/ Verandah
Perth	Passive Solar	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Verandah	7390	R3/R0/R0 Single G, Tint/ No shade	\$5,572	R5/50mmP/R2 Single G/ Verandah
Perth	Passive Solar	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Verandah	8050	R3/28mmP/R0 Single G, Tint/ No shade	\$5,809	R5/47mmP/Foil Single G, Tint/ Verandah
Perth	Small one storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	6820	R3/R2/R0 Single G/ No shade	\$7,355	R5/R2/R0 Dbl G, low-E/ Eaves
Perth	Small one storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	6000	R3/Foil/R0 Single G/ No shade	\$6,297	R5/Foil/R0 Dbl G/ Eaves
Perth	Small one storey	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	4920	R3/R0/R0 Single G/ No shade	\$4,866	R5/50mmP/R0 Single G, Tint/ Eaves
Perth	Small one storey	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	5640	R3/R0/R0 Single G/ No shade	\$5,034	R5/47mmP/R0 Single G, Tint/ Eaves
Perth	Small one storey	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Verandah	7520	R3/R2/R0 Single G, Tint/ No shade	\$8,132	R5/R2/R0 Dbl G, low-E/ Eaves
Perth	Small one storey	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Verandah	6590	R3/Foil/R0 Single G, Tint/ No shade	\$6,852	R5/R2+F/R0 Dbl G/ Eaves
Perth	Small one storey	Timb	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	5280	R3/R0/R0 Single G/ No shade	\$5,065	R5/50mmP/Foil Single G, Tint/ Eaves
Perth	Small one storey	Timb	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	6050	R3/R0/R0 Single G/ No shade	\$5,162	R5/47mmP/R2 Single G, Tint/ Eaves
Perth	Townhouse	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	3460	R3/R2/R0 Single G, Tint/ No shade	\$2,634	R5/R2/R0 Single G/ Verandah
Perth	Townhouse	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	3280	R3/Foil/R0 Single G, Tint/ No shade	\$2,386	R5/R2/R0 Single G/ Verandah
Perth	Townhouse	Conc	Double Brick	R5/50mmP/Poly Dbl G, low-E/ Verandah	2700	R3/R0/R0 Single G, Tint/ No shade	\$1,693	R5/50mmP/Poly Single G, Tint/ Eaves
Perth	Townhouse	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Verandah	2840	R3/28mmP/R0 Single G, Tint/ No shade	\$1,689	R5/47mmP/R0 Single G, Tint/ Eaves
Perth	Townhouse	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Verandah	3610	R3/R2/R0 Single G, Tint/ No shade	\$2,894	R5/R2/R2 Single G/ Verandah
Perth	Townhouse	Timb	Brick Veneer	R5/R2+F/Foil Dbl G, low-E/ Verandah	3380	R3/Foil/R0 Single G, Tint/ No shade	\$2,577	R5/R2+F/Foil Single G/ Verandah
Perth	Townhouse	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Verandah	2720	R3/R0/R0 Single G, Tint/ No shade	\$1,721	R5/50mmP/R0 Single G, Tint/ Eaves
Perth	Townhouse	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Verandah	2870	R3/28mmP/R0 Single G, Tint/ No shade	\$1,775	R5/47mmP/R0 Single G, Tint/ Eaves

Region	Design	Floor	Wall	Max CO <sub>2</sub> Savings (Option)	Max CO <sub>2</sub> (kg)	Max Net PV (Option)	Max NEV PV (\$)	Nearest and below
Sydney	Cross vent tropics	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Eaves	6530	R3/R2/R0 Single G/ No shade	\$7,538	R5/R2/R0 Single G, Tint/ Eaves
Sydney	Cross vent tropics	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Eaves	5790	R3/Foil/R0 Single G/ No shade	\$6,670	R5/R2+F/R0 Single G, Tint/ Eaves
Sydney	Cross vent tropics	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Eaves	5110	R3/R0/R0 Single G/ No shade	\$5,668	R5/50mmP/R0 Single G/ Eaves
Sydney	Cross vent tropics	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	5850	R3/R0/R0 Single G/ No shade	\$5,631	R5/47mmP/R0 Single G/ Eaves
Sydney	Cross vent tropics	Timb	Weatherboard	R5/R2/R0 Dbl G, low-E/ Eaves	7160	R3/R2/R0 Single G/ No shade	\$7,643	R5/R2/R2 Single G, Tint/ Eaves
Sydney	Cross vent tropics	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Eaves	6280	R3/Foil/R0 Single G/ No shade	\$6,550	R5/R2+F/R2 Single G, Tint/ Eaves
Sydney	Cross vent tropics	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Eaves	5500	R3/R0/R0 Single G/ No shade	\$5,642	R3/30mmP/R0 Single G, Tint/ Eaves
Sydney	Cross vent tropics	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Eaves	6290	R3/R0/R0 Single G/ No shade	\$5,579	R5/47mmP/R0 Single G/ Eaves
Sydney	Large two storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	7080	R3/R2/R0 Single G/ No shade	\$8,405	R5/R2/R0 Dbl G/ No shade
Sydney	Large two storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	6140	R3/Foil/R0 Single G/ No shade	\$7,480	R5/Foil/R0 Dbl G/ No shade
Sydney	Large two storey	Conc	Double Brick	R5/50mmP/Poly Dbl G, low-E/ Awning	5190	R3/R0/R0 Single G/ No shade	\$5,360	R5/50mmP/R0 Single G, Tint/ No shade
Sydney	Large two storey	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	6500	R3/R0/R0 Single G/ No shade	\$5,352	R5/47mmP/R0 Single G, Tint/ No shade
Sydney	Large two storey	Timb	Weatherboard	R5/R2/Foil Dbl G, low-E/ Awning	7450	R3/R2/R0 Single G/ No shade	\$8,594	R3/R2/R0 Dbl G, low-E/ No shade
Sydney	Large two storey	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	6380	R3/Foil/R0 Single G/ No shade	\$7,527	R5/Foil/Foil Dbl G/ No shade
Sydney	Large two storey	Timb	Double Brick	R3/50mmP/Foil Dbl G, low-E/ Awning	5380	R3/R0/R0 Single G/ No shade	\$5,313	R5/50mmP/R2 Single G, Tint/ No shade
Sydney	Large two storey	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	6910	R3/R0/R0 Single G/ No shade	\$5,281	R5/47mmP/R2 Single G, Tint/ No shade
Sydney	Medium one storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	5730	R3/R2/R0 Single G/ No shade	\$8,036	R5/R2/R0 Dbl G, low-E/ No shade
Sydney	Medium one storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	5340	R3/Foil/R0 Single G/ No shade	\$7,717	R5/R2+F/R0 Dbl G/ No shade
Sydney	Medium one storey	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	4700	R3/R0/R0 Single G/ No shade	\$6,891	R5/30mmP/R0 Dbl G/ No shade
Sydney	Medium one storey	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	5170	R3/R0/R0 Single G/ No shade	\$6,899	R3/47mmP/R0 Dbl G/ No shade
Sydney	Medium one storey	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Verandah	6240	R3/R2/R0 Single G/ No shade	\$8,130	R5/R2/Foil Dbl G, low-E/ No shade
Sydney	Medium one storey	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Verandah	5700	R3/Foil/R0 Single G/ No shade	\$7,653	R5/Foil/R0 Dbl G, low-E/ No shade
Sydney	Medium one storey	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	5140	R3/R0/R0 Single G/ No shade	\$6,826	R5/50mmP/R0 Dbl G/ No shade
Sydney	Medium one storey	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	5660	R3/R0/R0 Single G/ No shade	\$6,818	R3/47mmP/Foil Dbl G/ No shade
Sydney	Passive Solar	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	7010	R3/R2/R0 Single G/ No shade	\$6,882	R5/R2/R0 Single G/ Verandah
Sydney	Passive Solar	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	6360	R3/Foil/R0 Single G/ No shade	\$6,203	R5/R2+F/R0 Single G, Tint/ Eaves
Sydney	Passive Solar	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	5130	R3/R0/R0 Single G/ No shade	\$5,579	R5/50mmP/R0 Single G, Tint/ Eaves
Sydney	Passive Solar	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	5710	R3/R0/R0 Single G/ No shade	\$5,632	R5/47mmP/R0 Single G, Tint/ Eaves
Sydney	Passive Solar	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Verandah	8100	R3/R2/R0 Single G, Tint/ No shade	\$7,123	R5/R2/Foil Single G, Tint/ Verandah
Sydney	Passive Solar	Timb	Brick Veneer	R5/R2/R2 Dbl G/ Verandah	7070	R3/Foil/R0 Single G/ No shade	\$6,224	R5/R2+F/Foil Single G/ Verandah
Sydney	Passive Solar	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Verandah	5690	R3/R0/R0 Single G/ No shade	\$5,708	R5/50mmP/R2 Single G, Tint/ Eaves
Sydney	Passive Solar	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Verandah	6210	R3/R0/R0 Single G/ No shade	\$5,706	R5/47mmP/R2 Single G, Tint/ Eaves
Sydney	Small one storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	5330	R3/R2/R0 Single G/ No shade	\$7,190	R5/R2/R0 Dbl G, low-E/ No shade
Sydney	Small one storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	4800	R3/Foil/R0 Single G/ No shade	\$6,790	R5/R2+F/R0 Dbl G, low-E/ No shade
Sydney	Small one storey	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	4190	R3/R0/R0 Single G/ No shade	\$5,680	R5/50mmP/R0 Dbl G/ No shade
Sydney	Small one storey	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	4790	R3/R0/R0 Single G/ No shade	\$5,700	R5/47mmP/R0 Dbl G/ No shade
Sydney	Small one storey	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Verandah	5940	R3/R2/R0 Single G/ No shade	\$7,326	R3/R2/Foil Dbl G/ Eaves
Sydney	Small one storey	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Verandah	5250	R3/Foil/R0 Single G/ No shade	\$6,794	R5/R2+F/R2 Single G, Tint/ Eaves
Sydney	Small one storey	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	4540	R3/R0/R0 Single G/ No shade	\$5,663	R5/50mmP/R0 Dbl G/ No shade
Sydney	Small one storey	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	5180	R3/R0/R0 Single G/ No shade	\$5,654	R5/47mmP/R0 Dbl G/ No shade
Sydney	Townhouse	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	2490	R3/R2/R0 Single G/ No shade	\$2,262	R5/R2/R0 Single G, Tint/ Eaves
Sydney	Townhouse	Conc	Brick Veneer	R5/R2+F/Poly Dbl G, low-E/ Verandah	2350	R3/Foil/R0 Single G/ No shade	\$2,112	R5/R2+F/R0 Single G, Tint/ Eaves
Sydney	Townhouse	Conc	Double Brick	R5/50mmP/Poly Dbl G, low-E/ Verandah	1870	R3/R0/R0 Single G/ No shade	\$1,709	R5/50mmP/R0 Single G, Tint/ Eaves
Sydney	Townhouse	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	2020	R3/R0/R0 Single G/ No shade	\$1,731	R5/47mmP/R0 Single G, Tint/ Eaves
Sydney	Townhouse	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Verandah	2640	R3/R2/R0 Single G/ No shade	\$2,384	R5/R2/R2 Single G, Tint/ Eaves
Sydney	Townhouse	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Verandah	2480	R3/Foil/R0 Single G/ No shade	\$2,190	R5/R2+F/R2 Single G, Tint/ Eaves
Sydney	Townhouse	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Verandah	1930	R3/R0/R0 Single G/ No shade	\$1,760	R5/50mmP/Foil Single G, Tint/ Eaves
Sydney	Townhouse	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	2100	R3/28mmP/R0 Single G/ No shade	\$1,804	R5/47mmP/Foil Single G, Tint/ Eaves

Region	Design	Floor	Wall	Max CO <sub>2</sub> Savings (Option)	Max CO <sub>2</sub> (kg)	Max Net PV (Option)	Max NEV PV (\$)	Nearest and below
Townsville	Cross vent tropics	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	12600	R3/R2/R0 Single G, Tint/ No shade	\$5,780	R5/R2/R0 Single G, Tint/ Eaves
Townsville	Cross vent tropics	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	11630	R3/Foil/R0 Single G, Tint/ No shade	\$5,106	R5/R2+F/R0 Single G, Tint/ Eaves
Townsville	Cross vent tropics	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	10360	R3/R0/R0 Single G, Tint/ No shade	\$3,549	R5/50mmP/R0 Single G, Tint/ Eaves
Townsville	Cross vent tropics	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	11600	R3/R0/R0 Single G, Tint/ No shade	\$3,682	R5/47mmP/R0 Single G, Tint/ Eaves
Townsville	Cross vent tropics	Timb	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	13330	R3/R2/R0 Single G, Tint/ No shade	\$6,816	R5/R2/R0 Single G, Tint/ Eaves
Townsville	Cross vent tropics	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	12180	R3/Foil/R0 Single G, Tint/ No shade	\$5,840	R5/R2+F/R0 Single G, Tint/ Eaves
Townsville	Cross vent tropics	Timb	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	10720	R3/R0/R0 Single G, Tint/ No shade	\$3,979	R5/50mmP/R0 Single G, Tint/ Eaves
Townsville	Cross vent tropics	Timb	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	12070	R3/R0/R0 Single G, Tint/ No shade	\$4,107	R5/47mmP/R0 Single G, Tint/ Eaves
Townsville	Large two storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	14220	R3/Foil/R0 Single G, Tint/ No shade	\$6,669	R5/R2/R0 Single G, Tint/ Eaves
Townsville	Large two storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	12730	R3/Foil/R0 Single G, Tint/ No shade	\$5,870	R5/Foil/R0 Single G, Tint/ Eaves
Townsville	Large two storey	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	10710	R3/R0/R0 Single G, Tint/ No shade	\$3,449	R5/50mmP/R0 Single G, Tint/ No shade
Townsville	Large two storey	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	12750	R3/R0/R0 Single G, Tint/ No shade	\$3,606	R3/28mmP/R0 Single G, Tint/ No shade
Townsville	Large two storey	Timb	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	14750	R3/R1.5/R0 Single G, Tint/ No shade	\$7,334	R5/R2/R0 Single G, Tint/ Eaves
Townsville	Large two storey	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	13110	R3/Foil/R0 Single G, Tint/ No shade	\$6,327	R3/R2+F/R0 Single G, Tint/ Eaves
Townsville	Large two storey	Timb	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	10830	R3/R0/R0 Single G, Tint/ No shade	\$3,520	R5/50mmP/R0 Single G, Tint/ No shade
Townsville	Large two storey	Timb	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	12980	R3/R0/R0 Single G, Tint/ No shade	\$3,694	R3/28mmP/R0 Single G, Tint/ No shade
Townsville	Medium one storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	11730	R3/Foil/R0 Single G, Tint/ No shade	\$5,160	R5/R2/R0 Single G, Tint/ Eaves
Townsville	Medium one storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	11010	R3/Foil/R0 Single G, Tint/ No shade	\$4,764	R5/R2+F/R0 Single G, Tint/ Eaves
Townsville	Medium one storey	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Verandah	9170	R3/R0/R0 Single G, Tint/ No shade	\$3,059	#N/A
Townsville	Medium one storey	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Verandah	9810	R3/R0/R0 Single G, Tint/ No shade	\$3,059	R5/47mmP/R0 Single G, Tint/ No shade
Townsville	Medium one storey	Timb	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	12450	R3/Foil/R0 Single G, Tint/ No shade	\$5,979	R5/R2/R0 Single G, Tint/ Eaves
Townsville	Medium one storey	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	11590	R3/Foil/R0 Single G, Tint/ No shade	\$5,464	R5/R2+F/R0 Single G, Tint/ Eaves
Townsville	Medium one storey	Timb	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Verandah	9430	R3/R0/R0 Single G, Tint/ No shade	\$3,273	#N/A
Townsville	Medium one storey	Timb	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Verandah	10130	R3/R0/R0 Single G, Tint/ No shade	\$3,293	R5/47mmP/R0 Single G, Tint/ No shade
Townsville	Passive Solar	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	16080	R3/Foil/R0 Single G/ Verandah	\$8,719	R5/R2/R0 Dbl G/ Verandah
Townsville	Passive Solar	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	15210	R3/Foil/R0 Single G/ Verandah	\$7,938	R5/R2+F/R0 Single G, Tint/ Verandah
Townsville	Passive Solar	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Verandah	13350	R3/R0/R0 Single G/ Verandah	\$6,008	R5/50mmP/R0 Single G, Tint/ Verandah
Townsville	Passive Solar	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Verandah	14190	R3/R0/R0 Single G/ Verandah	\$6,437	R5/47mmP/R0 Single G, Tint/ Verandah
Townsville	Passive Solar	Timb	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	16980	R3/Foil/R0 Single G/ Verandah	\$9,747	R5/R2/R0 Dbl G/ Verandah
Townsville	Passive Solar	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	15960	R3/Foil/R0 Single G/ Verandah	\$8,780	R5/R2+F/R0 Single G, Tint/ Verandah
Townsville	Passive Solar	Timb	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Verandah	13680	R3/R0/R0 Single G/ Verandah	\$6,350	R5/50mmP/R0 Single G, Tint/ Verandah
Townsville	Passive Solar	Timb	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Verandah	14600	R3/R0/R0 Single G/ Verandah	\$6,790	R5/47mmP/R0 Single G, Tint/ Verandah
Townsville	Small one storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	11590	R3/Foil/R0 Single G, Tint/ No shade	\$5,033	R5/R2/R0 Single G, Tint/ Eaves
Townsville	Small one storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	10680	R3/Foil/R0 Single G, Tint/ No shade	\$4,533	R5/R2+F/R0 Single G, Tint/ Eaves
Townsville	Small one storey	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Verandah	8850	R3/R0/R0 Single G, Tint/ No shade	\$2,899	R5/50mmP/R0 Single G, Tint/ Eaves
Townsville	Small one storey	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Verandah	9700	R3/R0/R0 Single G, Tint/ No shade	\$2,969	#N/A
Townsville	Small one storey	Timb	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	12300	R3/R2/R0 Single G, Tint/ No shade	\$5,819	R3/R2/R0 Single G, Tint/ Awning
Townsville	Small one storey	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	11260	R3/Foil/R0 Single G, Tint/ No shade	\$5,135	R5/R2+F/R0 Single G, Tint/ Eaves
Townsville	Small one storey	Timb	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Verandah	9140	R3/R0/R0 Single G, Tint/ No shade	\$3,107	R5/50mmP/R0 Single G, Tint/ Eaves
Townsville	Small one storey	Timb	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Verandah	10070	R3/R0/R0 Single G, Tint/ No shade	\$3,188	R3/47mmP/R0 Single G, Tint/ Eaves
Townsville	Townhouse	Conc	Weatherboard	Foil+R3/R2/R0 Dbl G, low-E/ Verandah	6090	R3/R1.5/R0 Single G, Tint/ No shade	\$2,096	Foil+R3/R2/R0 Single G, Tint/ Verandah
Townsville	Townhouse	Conc	Brick Veneer	Foil+R3/R2+F/R0 Dbl G, low-E/ Verandah	5900	R3/Foil/R0 Single G, Tint/ No shade	\$2,015	Foil+R3/R2+F/R0 Single G, Tint/ Verandah
Townsville	Townhouse	Conc	Double Brick	Foil+R3/50mmP/R0 Dbl G, low-E/ Verandah	5250	R3/R0/R0 Single G, Tint/ No shade	\$1,526	R3/30mmP/R0 Single G, Tint/ Verandah
Townsville	Townhouse	Conc	Conc Block	Foil+R3/47mmP/R0 Dbl G, low-E/ Verandah	5440	R3/R0/R0 Single G, Tint/ No shade	\$1,515	#N/A
Townsville	Townhouse	Timb	Weatherboard	Foil+R3/R2/R0 Dbl G, low-E/ Verandah	6170	R3/R1.5/R0 Single G, Tint/ No shade	\$2,191	Foil+R3/R2/R0 Single G, Tint/ Verandah
Townsville	Townhouse	Timb	Brick Veneer	Foil+R3/R2+F/R0 Dbl G, low-E/ Verandah	5940	R3/Foil/R0 Single G, Tint/ No shade	\$2,071	Foil+R3/R2+F/R0 Single G, Tint/ Verandah
Townsville	Townhouse	Timb	Double Brick	Foil+R3/50mmP/R0 Dbl G, low-E/ Verandah	5210	R3/R0/R0 Single G, Tint/ No shade	\$1,486	#N/A
Townsville	Townhouse	Timb	Conc Block	Foil+R3/47mmP/R0 Dbl G, low-E/ Verandah	5400	R3/R0/R0 Single G, Tint/ No shade	\$1,461	#N/A

Region	Design	Floor	Wall	Max CO <sub>2</sub> Savings (Option)	Max CO <sub>2</sub> (kg)	Max Net PV (Option)	Max NEV PV (\$)	Nearest and below
West Sydney	Cross vent tropics	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Eaves	7870	R3/R2/R0 Single G/ No shade	\$10,644	R5/R2/R0 Dbl G/ Eaves
West Sydney	Cross vent tropics	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Eaves	6840	R3/Foil/R0 Single G/ No shade	\$9,111	R5/Foil/R0 Dbl G, low-E/ No shade
West Sydney	Cross vent tropics	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	6010	R3/30mmP/R0 Single G/ No shade	\$7,702	R5/50mmP/R0 Dbl G/ No shade
West Sydney	Cross vent tropics	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	6950	R3/28mmP/R0 Single G/ No shade	\$8,091	R5/47mmP/R0 Dbl G/ No shade
West Sydney	Cross vent tropics	Timb	Weatherboard	R5/R2/R0 Dbl G, low-E/ Eaves	8530	R3/R2/R0 Single G/ No shade	\$10,783	R5/R2/R0 Dbl G/ Eaves
West Sydney	Cross vent tropics	Timb	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Eaves	7320	R3/Foil/R0 Single G/ No shade	\$8,979	R5/R2+F/R2 Single G, Tint/ Eaves
West Sydney	Cross vent tropics	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Eaves	6350	R3/30mmP/R0 Single G/ No shade	\$7,699	R5/50mmP/R2 Single G, Tint/ Eaves
West Sydney	Cross vent tropics	Timb	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	7350	R3/28mmP/R0 Single G/ No shade	\$8,245	R5/47mmP/R0 Dbl G/ No shade
West Sydney	Large two storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	8600	R3/R2/R0 Single G/ No shade	\$11,976	R5/R2/R0 Dbl G, low-E/ No shade
West Sydney	Large two storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	7280	R3/Foil/R0 Single G/ No shade	\$10,080	R5/R2+F/R0 Dbl G, low-E/ No shade
West Sydney	Large two storey	Conc	Double Brick	R5/50mmP/Poly Dbl G, low-E/ Awning	6090	R3/30mmP/R0 Single G/ No shade	\$7,291	R5/30mmP/R0 Dbl G/ No shade
West Sydney	Large two storey	Conc	Conc Block	R5/47mmP/Poly Dbl G, low-E/ Awning	7670	R3/28mmP/R0 Single G/ No shade	\$7,571	R5/47mmP/R0 Dbl G/ No shade
West Sydney	Large two storey	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Awning	9050	R3/R2/R0 Single G/ No shade	\$12,248	R5/R2/R2 Dbl G, low-E/ No shade
West Sydney	Large two storey	Timb	Brick Veneer	R5/R2+F/Foil Dbl G, low-E/ Awning	7620	R3/Foil/R0 Single G/ No shade	\$10,180	R5/R2+F/Foil Dbl G, low-E/ No shade
West Sydney	Large two storey	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	6490	R3/30mmP/R0 Single G/ No shade	\$7,314	R5/30mmP/Foil Dbl G/ No shade
West Sydney	Large two storey	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	8170	R3/28mmP/R0 Single G/ No shade	\$7,747	R5/47mmP/Foil Dbl G/ No shade
West Sydney	Medium one storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	7110	R3/R2/R0 Single G/ No shade	\$11,168	R5/R2/R0 Dbl G/ Eaves
West Sydney	Medium one storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	6550	R3/Foil/R0 Single G/ No shade	\$10,405	R5/R2+F/R0 Dbl G, low-E/ No shade
West Sydney	Medium one storey	Conc	Double Brick	R5/50mmP/Poly Dbl G, low-E/ Awning	5600	R3/30mmP/R0 Single G/ No shade	\$8,991	R5/50mmP/R0 Dbl G, low-E/ No shade
West Sydney	Medium one storey	Conc	Conc Block	R5/47mmP/Poly Dbl G, low-E/ Awning	6160	R3/R0/R0 Single G/ No shade	\$8,952	R5/47mmP/R0 Dbl G, low-E/ No shade
West Sydney	Medium one storey	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Verandah	7620	R3/R2/R0 Single G/ No shade	\$11,355	R5/R2/Foil Dbl G/ Eaves
West Sydney	Medium one storey	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Awning	6940	R3/Foil/R0 Single G/ No shade	\$10,384	R5/R2+F/R2 Dbl G, low-E/ No shade
West Sydney	Medium one storey	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	6140	R3/30mmP/R0 Single G/ No shade	\$8,977	R5/50mmP/R2 Dbl G, low-E/ No shade
West Sydney	Medium one storey	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	6770	R3/28mmP/R0 Single G/ No shade	\$8,904	R5/47mmP/R2 Dbl G, low-E/ No shade
West Sydney	Passive Solar	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Verandah	8110	R3/R2/R0 Single G/ No shade	\$9,902	R5/R2/R0 Dbl G/ Eaves
West Sydney	Passive Solar	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Verandah	7220	R3/Foil/R0 Single G/ No shade	\$8,696	R3/Foil/R0 Dbl G/ Eaves
West Sydney	Passive Solar	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	6100	R3/R0/R0 Single G/ No shade	\$7,781	R3/30mmP/R0 Dbl G/ No shade
West Sydney	Passive Solar	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	6810	R3/28mmP/R0 Single G/ No shade	\$8,086	R5/47mmP/R0 Dbl G/ No shade
West Sydney	Passive Solar	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Verandah	9280	R3/R2/R0 Single G/ No shade	\$10,145	R5/R2/R0 Dbl G, low-E/ Eaves
West Sydney	Passive Solar	Timb	Brick Veneer	R5/R2+F/R0 Dbl G/ Verandah	7790	R3/Foil/R0 Single G/ No shade	\$8,700	R5/R2+F/R0 Dbl G/ Eaves
West Sydney	Passive Solar	Timb	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	6490	R3/30mmP/R0 Single G/ No shade	\$7,841	R5/50mmP/R0 Dbl G/ No shade
West Sydney	Passive Solar	Timb	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	7280	R3/28mmP/R0 Single G/ No shade	\$8,384	R5/47mmP/R0 Dbl G/ No shade
West Sydney	Small one storey	Conc	Weatherboard	R5/R2/R0 Dbl G, low-E/ Awning	6600	R3/R2/R0 Single G/ No shade	\$10,095	R5/R2/R0 Dbl G, low-E/ Eaves
West Sydney	Small one storey	Conc	Brick Veneer	R5/R2+F/R0 Dbl G, low-E/ Awning	5860	R3/Foil/R0 Single G/ No shade	\$8,976	R5/R2+F/R0 Dbl G/ Eaves
West Sydney	Small one storey	Conc	Double Brick	R5/50mmP/R0 Dbl G, low-E/ Awning	4990	R3/30mmP/R0 Single G/ No shade	\$7,642	R5/50mmP/R0 Dbl G, low-E/ No shade
West Sydney	Small one storey	Conc	Conc Block	R5/47mmP/R0 Dbl G, low-E/ Awning	5700	R3/28mmP/R0 Single G/ No shade	\$7,773	R5/47mmP/R0 Dbl G, low-E/ No shade
West Sydney	Small one storey	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Verandah	7180	R3/R2/R0 Single G/ No shade	\$10,273	R5/R2/R2 Dbl G, low-E/ Eaves
West Sydney	Small one storey	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Verandah	6230	R3/Foil/R0 Single G/ No shade	\$8,959	R5/R2+F/Foil Dbl G, low-E/ Eaves
West Sydney	Small one storey	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	5430	R3/30mmP/R0 Single G/ No shade	\$7,682	R5/50mmP/R2 Dbl G, low-E/ No shade
West Sydney	Small one storey	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	6220	R3/28mmP/R0 Single G/ No shade	\$7,941	R5/47mmP/R2 Dbl G, low-E/ No shade
West Sydney	Townhouse	Conc	Weatherboard	R5/R2/Poly Dbl G, low-E/ Verandah	2770	R3/R2/R0 Single G/ No shade	\$3,200	R5/R2/R0 Dbl G/ No shade
West Sydney	Townhouse	Conc	Brick Veneer	R5/R2+F/Poly Dbl G, low-E/ Verandah	2570	R3/Foil/R0 Single G/ No shade	\$2,902	R5/R2+F/Poly Single G, Tint/ Eaves
West Sydney	Townhouse	Conc	Double Brick	R5/50mmP/Poly Dbl G, low-E/ Awning	2060	R3/30mmP/R0 Single G/ No shade	\$2,359	R5/50mmP/Poly Single G, Tint/ Eaves
West Sydney	Townhouse	Conc	Conc Block	R5/47mmP/Poly Dbl G, low-E/ Awning	2270	R3/28mmP/R0 Single G/ No shade	\$2,484	R5/47mmP/R0 Single G, Tint/ Eaves
West Sydney	Townhouse	Timb	Weatherboard	R5/R2/R2 Dbl G, low-E/ Verandah	2930	R3/R2/R0 Single G/ No shade	\$3,356	R3/R2/R0 Dbl G/ Eaves
West Sydney	Townhouse	Timb	Brick Veneer	R5/R2+F/R2 Dbl G, low-E/ Verandah	2700	R3/Foil/R0 Single G/ No shade	\$2,997	R5/R2+F/R0 Dbl G/ No shade
West Sydney	Townhouse	Timb	Double Brick	R5/50mmP/R2 Dbl G, low-E/ Awning	2150	R3/30mmP/R0 Single G/ No shade	\$2,457	R5/50mmP/R2 Single G, Tint/ Eaves
West Sydney	Townhouse	Timb	Conc Block	R5/47mmP/R2 Dbl G, low-E/ Awning	2380	R3/47mmP/R0 Single G/ No shade	\$2,639	R5/47mmP/R2 Single G, Tint/ Eaves